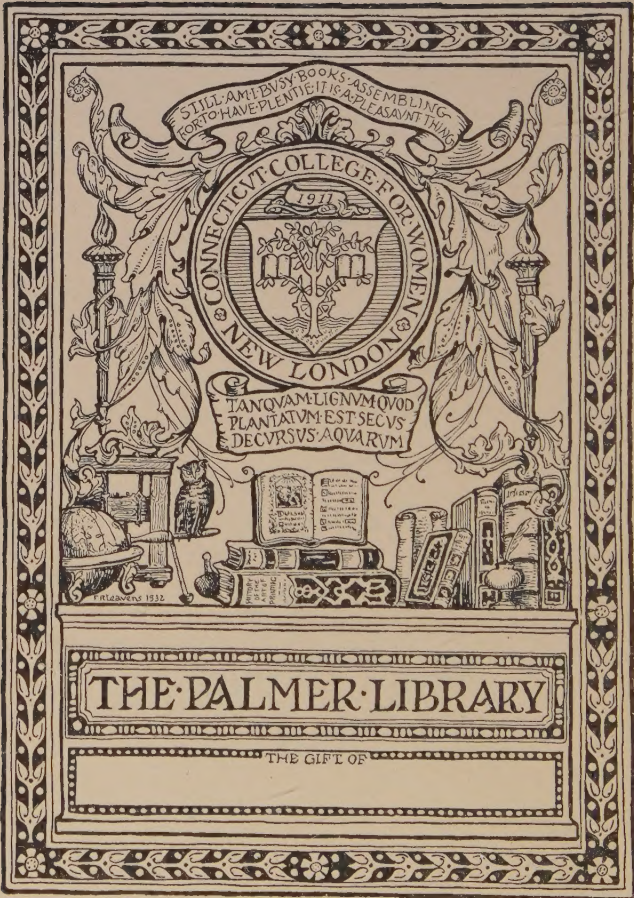


THE BRITISH COAL DILEMMA

The Institute of Economics



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THE INSTITUTE OF ECONOMICS
INVESTIGATIONS IN INDUSTRY AND LABOR

THE BRITISH COAL DILEMMA



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THE BRITISH COAL DILEMMA

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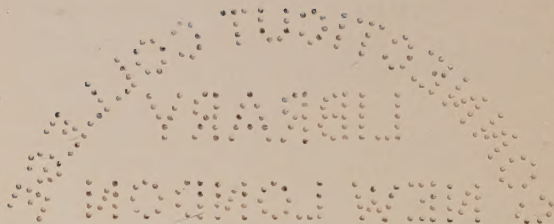
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DIRECTOR'S PREFACE

For almost a decade conditions in the British coal industry have been chaotic, and industrial warfare has been waged on a scale never before known. The defeat of 1,100,000 miners, who remained away from the mines for seven months in 1926, has not, it is now generally conceded, solved the difficult problems facing the coal trade. A large portion of the industry is still threatened with disaster and several hundred thousand miners are faced with the spectre of total or partial unemployment.

The British coal problem is more than a problem of coal. In its incidence it affects in a vital way the entire economic life of the nation. While the state of the British coal trade is in a sense symptomatic of the state of British industry generally, it is at the same time a very important and directly contributing factor in the whole unsettled economic situation. It is because of the far-reaching importance of coal in the larger economy of Great Britain, as well as because of the light that a study of British coal may throw upon the American coal problem, that the Institute of Economics has undertaken this investigation.

Briefly, the authors have endeavored to analyze the forces which have brought this vital industry to an impasse, to appraise the various measures which

have been advanced for its regeneration, and to indicate the lines along which constructive developments must be sought. It is believed that the detached position of the Institute has enabled its investigators to consider the economic and social phases of the problem in a way that would scarcely be possible for those who have been directly affected by the economic consequences of existing conditions or too closely connected with the embittering controversies of recent years.

Though much of the material in the book has been gathered from the voluminous reports of official investigations, a large part of it has been the result of first-hand field study in the mining areas of Great Britain. The authors were everywhere most courteously received—alike by mine owners and managers, representatives of labor, government officials, and other students of the problem. To all who have given aid, the authors and the Institute here express most grateful appreciation.

HAROLD G. MOULTON,
Director.

Institute of Economics,
July, 1927.

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·This is a question of that almost religious importance which needs the separate study and determination of every intelligent person.”

W. STANLEY JEVONS,
The Coal Question, 1865.

THE BRITISH COAL DILEMMA

CHAPTER I

PITFALLS AND PREJUDICES

If it be true, as is commonly asserted, that men think only when they are in trouble, it is not a surprising fact that more thought and energy have been focussed on the coal industry than on any other industrial problem of Great Britain. This continual preoccupation with coal has been described by a gentleman of prominence in the mining industry as "the breaking out of a mental disease," "a psychological obsession." Yet emotional disorders do not arise without cause. If all were well with the coal industry it would long since have ceased to be the object of continual preoccupation. Since 1918, two important and able public commissions have sat, like doctors in council, subjecting the industry to thorough examination. Finding the process of diagnosis a complex one, they have marshalled facts and opinions on every phase of the subject from pit-head baths and the housing problem to coal-cutting machinery and the development of by-products. Two less exhaustive inquiries reviewed the state of the industry in 1924 and 1925. A joint subcommittee of the Mining Association and the Miners' Federation addressed itself to a consideration of the facts, causes and remedies for the "grave state of

the industry" in the spring of 1925. Suggestions and proposals for temporary relief and thorough reorganization have poured forth from both the layman and the expert. Meanwhile, owners, miners, and the public have alternately hurled accusations and announced remedies.

In the midst of this confusion no phase of the industry has been left unchallenged. At every point it has been, and still is, a subject of controversy. The scheme of ownership, pit management, the housing situation, the insecurity of profits, the miner's attitude toward his work, the multiplication of middlemen, the standards of progress in coal-utilization—all are suspect. Suggestions of change have run the gamut from annual holidays with pay to a sweeping away of private ownership and a challenging of the general scheme of industrial relations now existing in Great Britain. On the evidence of the amount of thinking that has been done, the problem is an exceedingly difficult one.

In a situation as baffling as this, one may be sure that all the characteristic obstacles to clear thinking will appear intensified. For the assertion that men think only when they are in trouble may be matched by an observation equally obvious: namely, that when men are in trouble their thinking is often confused and may even be frustrated by the pressure of the emergency. Both statements are unmistakably applicable to the British Coal Industry. As one reads one's way into the mazes of the coal problem by means of *précis*, editorial, or propaganda pamphlet, through public document and a vast amount of testimony, one's attention is arrested by certain

confusions and difficulties which constantly appear and reappear in the arguments. Nor do the leaders of the industry, as one discovers in private discussion, appear to have escaped from these difficulties.

So frequently, indeed, does one encounter these obstacles to clear thinking, these mental hazards, that it seems advisable before undertaking a statement of the coal problem as such, to call attention to the recurrent confusions which, though often disguised, implicitly and explicitly run through the discussions. The cost of these confusions, it has been estimated, has in the recent crisis run well in excess of a billion dollars. But the charge cannot be levied against coal alone. For the confusions here are characteristic of all our social thinking. The dilemmas in the coal problem are not peculiar to itself. Industrial and economic problems can never have the simplicity and impersonality of the calculations of the mechanical engineer. Not mathematical quantities of physical forces, but the infinite complexities of a human society, are here involved. It is not surprising, therefore, that minds dealing with the coal problem have been confused and distracted by the difficulties which all thinking encounters when it tries to reduce to terms of simple understanding the shifting maze of men's interests and desires as they reflect themselves in the social order.

First in importance, perhaps, among these confusions is the fact that the coal problem, like other matters of economic policy, is so often discussed in terms of a social commitment. Not investigation, but controversy, becomes the method of procedure. The disputants fall into camps, each dogmatically

accepting a fundamental set of assumptions. Certain minds, for example, regard the present system of arrangements as a part of the natural order having its sanction in a high and sacred source. It is felt to belong to the universe as truly as do the seasons and the tides. To attempt control is, therefore, to impose something artificial upon a system where natural laws are in full and flawless operation. This mode of thinking is applied with peculiar urgency to the coal industry which was born and which flourished when such an economic order had full right of way both in theory and in practice. Indeed, coal has for so long been identified with the individualistic control of industry, of which it appeared for decades as the prize exhibit, that the suggestion of alteration seems to many minds both futile and impious. If flaws appear in the working of the system they are attributed to ill-advised interference of the state, to the laziness of workers, or to a hostile public opinion. They are not regarded as the result of any failure of private interest to coincide with public welfare.

Such faith in the existing scheme is to other minds wholly unwarranted, and smacks of sheer bigotry. This faith is confounded, as far as the coal industry is concerned, by the incoherence of the system, its continual chaos and confusion, and by its fruits in human disappointment and misery. There can be no sanctity in a scheme which functions so badly, nor reason for prolonging its existence on the plea that "it works after a fashion." Shatter it and build anew. Thus bigotry and impiety confront each other, and the discussion carried on in terms of this

"highly inflated verbal currency" does little more than increase the general confusion.

Dogmatic positions are likely to be maintained long after they have lost their relevance. And so it happens that changes in our economic life are usually well under way before we begin effectively to grapple with them. Old ways of thinking, as we know, tend to survive when techniques and institutions have moved forward. The transformations of the past decades are so far-reaching and complex in their significance that to minds dealing with immediate issues it seems a hopeless task to see the implications of the changes as a whole.

No one can read far into the annals of coal without realizing that the picture of the industry in its early days still dominates thought and imagination. During the decades when coal was coming into the height of its power, its problems were those of a successful industry carrying on its back the other industries of a prosperous people, employing an increasing number of workers, mining abundant and accessible coal for a market where there was no problem of substitutes and little serious competition. Coal utilization was in the first stages of experimentation and the vast possibilities of electrical development were only dreamed of. The complex series of changes which manifest themselves in increased mining costs, in a new market situation, in the development of new sources of power, in new possibilities of coal utilization and the wider use of electricity—this trend of events has only gradually been making clear the futility of thinking about British coal in the old terms. Yet the new terms

are not worked out. Present-day imagination is challenged and baffled by the presence of vast new technical forces which may modify the social landscape as profoundly as did the advent of steam. The necessity of sustained coöperation between the economist and the engineer has become patent, but the channels of coöperation have yet to be devised.

There are, moreover, new social as well as new technical forces which necessitate a modern orientation. For this is a period of swift change in industrial relationships as well as in science. The friction, suspicion, and hostility between employers and workers have long constituted a challenge to find new forms of coöperation in the productive process. Collective bargaining as it is carried on today is plainly inadequate, but the coal industry, in common with others, has been unable to replace the older method by a new system of organized partnership.

As in the case of other industrial problems, a great deal of the thinking about coal is being done from special angles. And here is another fertile source of confusion. For all the groups engaged in the production and distribution of coal tend to think about its problems and to present evidence in terms of their special functions. The mine owners think necessarily about their credit and debit balances, and getting this or that contract for coal. The land owners are busy with the justification of royalties.¹ The workers are chiefly concerned with wage rates,

¹ It should be borne in mind that in England the coal resources belong to the owners of the surface land, who are known as royalty owners. They lease the coal resources to those who own and work the mines, variously called mine owners, colliery owners or coal owners.

working conditions, and the problems of living in mining villages. Consumers want assurance in regard to price, steady delivery, and quality of coal. Investors are anxious about the returns on their investments. Factors, wholesalers, retail merchants and exporters are concerned with ways of making a living from the buying and selling of coal.

In some such fashion each group sees the coal problem in terms peculiar to itself. Even when, in more expansive moments, they try to envisage the coal problem as a whole, and to suggest solutions, their thinking almost inevitably bears the imprint of their particular bias. No matter how penetrating the analysis from these individual points of view, the mere addition of such partial solutions does not make a total solution any more than the addition of words makes a sentence. The partial solutions conflict and must be made relevant to each other. Unless the manifold problems within the industry are subordinated and brought into relation with the industry as a whole, there is little likelihood that the conflict of partial insights can be overcome. If royalties or middlemen's profits are found to conflict with interest payment or a minimum wage, disinterested reform must threaten one or the other of these vested interests. And yet to threaten well-established modes of thought or activity in any field is inevitably to provoke resistance. And so it comes about that, interwoven with facts about the size and efficiency of mines and the tangled questions of output and amalgamation, there is propaganda, distortion, grievance and accusation. In this highly charged atmosphere any reforms suggested appear

not as mere remedies for existing defects but as partisan victories for one side or the other. The coal question comes to be not "what *should* be done" but "what *can* be done" so that, while all groups shall be brought into agreement, none may seem to have given way.

A difficulty of a different nature which runs through the coal problem is that in current discussions inadequate account is taken of issues that cannot be crowded into pecuniary calculation. Here, as elsewhere, there is conflict between the tangible, or pecuniary aspects, and those more or less intangible aspects of the problem which may be designated as personal. The relations of coal to society are at once instrumental and intrinsic. It is a part of economic organization; it is also a factor in determining directly the life and welfare of many individuals. On the one hand, coal must be measured in terms of output per man, cost per ton, value per cargo; on the other, it must make provision in terms of food for children, housing for families, recreation for social groups, education for individuals and communities. It must be cheap enough to compete in the markets of the world and to furnish power at home; it must be dear enough to insure progressive standards of life for its dependents. Whatever chances for decent living are to come to a tenth of England's population must come directly from the sale of coal. And this conflict, common to every industrial problem, is intensified in coal, since so large a proportion of the working population is affected, and conditions of life and work are such as persistently to challenge our humanitarian stand-

ards. No cost accounting system yet devised is able to take these two sets of considerations and bring them into manageable relations with each other.

A further confusion which becomes apparent in the consideration of programs and policies is the conflict between the immediate alleviation of a situation and a long-time program. A great deal of ambiguity and vagueness has arisen from the fact that among the suggestions and solutions offered for the cure of the coal industry some aim at tiding over the crisis while others are concerned with building for the more distant future. The recent proposal to lengthen hours and lower wages aimed primarily at the alleviation of the immediate depression, and it was not even suggested that such an expedient could be continually applied to recurrent crises. The miners' program of nationalization, on the other hand, offered no immediate panacea. It addressed itself to the more extensive and necessarily slower process of the readaptation of the industry to the needs of the economic life of Great Britain. It is clear that, although these two types of remedy are continually suggested as alternatives, there is in reality no basis of comparison between the two. The insistent present and the distant future must alike be faced.² One reason why the commissions and courts of inquiry appointed from time to time by the government to investigate the industry have failed to achieve more lasting results is that they have

² It appears to be the case that those who have a vision of a general program of reorganization are relatively uncertain of the present situation, while those who see more vividly the issues of the immediate present are not altogether clear as to the general drift of their policy.

done their work in the face of an immediate crisis which demanded action. The temporary settlements effected have achieved an illusion of peace and security, an illusion strengthened by the prosperity following upon a period of slackness. But in the interval of peace the more far-reaching suggestions have fallen into oblivion until a new crisis shall once more bring them to men's attention.

Of all the debatable issues in which the coal industry is involved none is more baffling nor more sharply contested than the relation of government to industry. On the one hand there is the conviction that escape from the misfortunes and failures of private enterprise can be found only by having recourse to public administration and control, and that such a change would transform the essential nature of the problems and clarify their confusions. On the other hand, it seems clear to many that any departure from private enterprise, any governmental "interference," must necessarily be disastrous. The question here at issue is whether in the management of large undertakings organized coöperation is necessary, and if so, whether or not it should be secured by government control. To those who are accustomed to make administrative decisions in terms of the existing scheme of control radical departures from established custom and practice cannot fail to be disturbing. Reconstruction has in general made its appeal, first, to those who, having found the existing order least tolerable, are driven by immediate practical necessity, and secondly, to students of industry and economics who, relatively free from personal or vested interests, are studying affairs with

the longer views and the deeper insight of the impartial investigator.

Such is the general setting of the coal problem in terms of current intellectual and social attitudes. It is in the midst of these confusions, these conflicts of opinion, that the problem itself must be discovered and dealt with. The issue at stake is that of the prosperity or failure of a piece of industrial organization. For many decades coal mining was the secure and solid basis of British industrial life. In later decades a complex series of changes, geological, economic, and social, have converged to undermine the prosperity of the coal industry. Health has been followed by sickness, success by failure. The dramatic breakdown of 1925-26 and the seven month stoppage in the coal fields was only the outward sign and symbol of a deeper and more serious malady. To determine the forces which have been and still are responsible for the declining fortunes of the coal industry in Great Britain is the purpose of this study.

For the accomplishment of our task we must view the breakdown in the mining industry from different angles and from different levels. The most obvious way is to follow it as a sequence of events. The chronological story of the mining crisis, which constitutes Part I, pictures the early prosperity of the industry and traces the steps which led to the breakdown in 1926. In this story the activities of commissions, the changes in market demand, the conferences of owners and workers, wage negotiations—all the attempts of this body and that to deal with a shifting and confusing situation will be recounted.

On the second level we shall attempt to discover and describe the basic economic forces at work in the industry. The analysis will accordingly address itself to the effects of waning resources and declining output in the pits of Great Britain, to technological developments and to new sources of production in foreign countries. From another approach, we shall study the industry as the focus of conflict between two opposing points of view which have developed out of the complicated structure of life and industry as they find their setting in twentieth century Britain. In these terms, the situation must be represented, not as the play of external forces, but as the meeting of political and social presuppositions unable as yet to come to mutual understanding.

Finally, all these inquiries must be viewed as contributing to the solution of an immediate practical problem. This problem is whether or not the industry is drifting toward further disorganization, and what, if anything, can be done to guide its course into more successful channels. If markets are lost, can a policy of reorganization and reorientation save the industry from disaster, or is it caught in a tide which men are powerless to stem?

PART I

THE SEQUENCE OF EVENTS

CHAPTER II

THE THRIVING INDUSTRY

Few are the industries with a past as prosperous as that of coal mining. Its strategic position in the economy of Great Britain has been so often recounted that even the casual student is aware that, like a magnet, coal has drawn to itself the raw materials of other countries; that it has furnished outward cargo to the ships for many ports and thus cheapened the freights of incoming goods; that, being the only important source of power, it has turned the wheels of industry, helping to make Great Britain "the workshop of the world." In terms of the number employed and the significance of its product in the export trade, coal mining holds first place among Britain's industries. The output of coal has in a single year reached the level of 287,000,000 tons—an output second only to that attained in the United States. In value this output amounts to over a billion dollars a year. Approximately one-third of the coal produced finds its way into foreign markets, and sales abroad have, within a given year (1913), attained the total of 100,000,000 tons—an amount greater than that of all other countries combined, and over two and one-half times the maximum ever shipped from the United States.¹

¹ Four-fifths of the total exports from the United States go to Canada.

Except in the matter of coal, nature was niggardly in her gifts of raw materials to Great Britain. But here she was lavish. Almost 200 billion tons of coal today underlie the surface of the British Isles.² These resources comprise every variety of coal known to civilization. Among them are seams of anthracite, fine grades of gas and coking coal, and steam raising coal of calorific qualities surpassed nowhere else in the world. These seams vary in thickness from a few inches to about 30 feet,³ and run sometimes parallel to the earth's surface, sometimes at almost a vertical plane. They frequently overlies one another, separated by strata of rock, and are known in certain districts to number 36 in all, with an aggregate thickness of 144 feet of coal.⁴ The workable coal known to exist in the United Kingdom today approximates 136 billion tons, an amount which at the present rate of output will last between four and five centuries.⁵

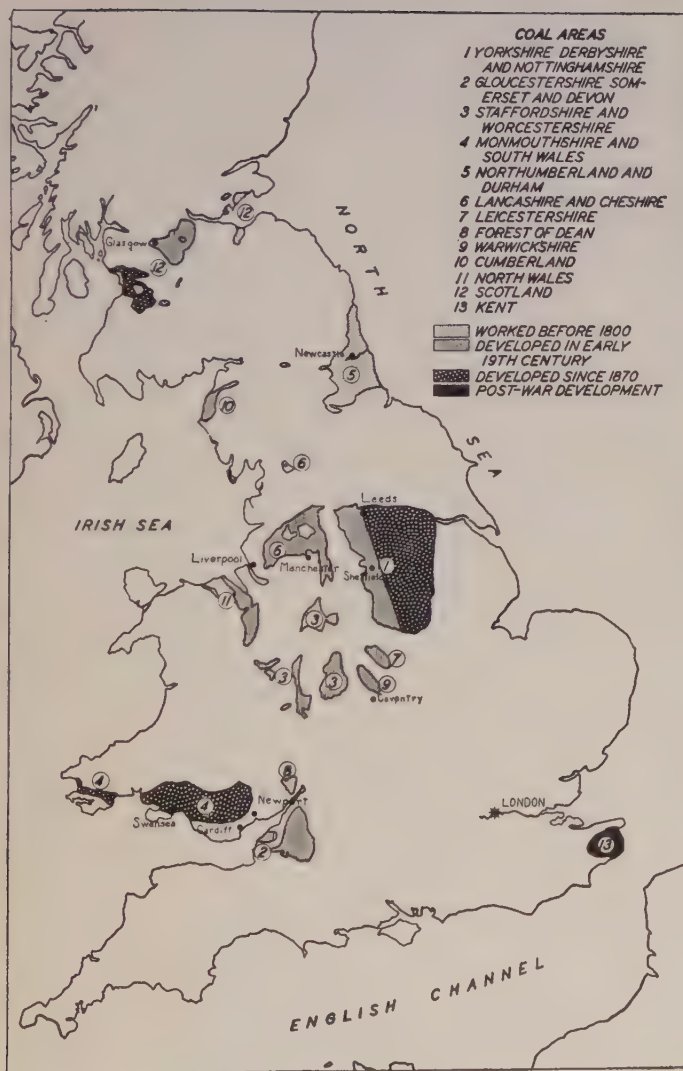
In the matter of the geographical location of the coal fields nature was also kind. So strategically were these coal fields placed that fuel was readily available to almost every section of the country. With deposits extending to the very seaboard, the task of using this gift of nature has presented a minimum of difficulty, and Great Britain has not been burdened with the long hauls characteristic of the American coal trade. Her produce does not have to bear the tremendous burden imposed in transporting

² Jevons, H. S., *The British Coal Trade*, London, 1915, p. 736.

³ *Ibid.*, p. 89.

⁴ *Ibid.*, p. 88.

⁵ Royal Commission on the Coal Industry (1925), *Report*, Vol. 1, p. 19.



THE COAL FIELDS OF GREAT BRITAIN AND THE PERIODS OF THEIR DEVELOPMENT.

a bulky commodity from mine to factory or sea-board.^o

Just how long coal has played a part in British history it is difficult to say. Whether, as some authorities believe, it was known to the ancient Britons of the pre-Roman era is a matter of dispute. Authoritative records mention coal in connection with certain transactions as far back as the last decade of the twelfth century. By the middle of the thirteenth century it had assumed a place in the economy of Great Britain of sufficient importance to cause discussion of the smoke nuisance. Smoky London of today apparently had its counterpart in 1306 when Edward I attempted by an ineffective decree to compel all but smiths to "eschew the obnoxious material (coal) and return to the fuel they

^o The principal coal fields underlie southern Scotland, Northumberland, and Durham in the north, Yorkshire, Derbyshire, Nottinghamshire, Lincolnshire, and Lancashire north of the central part of the country, and Wales in the southwest. Other less important coal fields are in Kent, in the southeast corner of the British Isles; in Cumberland, on the northwest coast; in the Midland counties of Staffordshire, Warwickshire, Worcestershire, Leicestershire, and Shropshire. South Wales, Northumberland, Durham, and Scotland cater primarily to the bunker and the export trade. From the northeast ports of Newcastle, Sunderland, etc., were shipped over 26 million tons of export coal in 1923; from Newport, Swansea, Cardiff, and other cities on the Bristol Channel some 30 million tons; from Glasgow, Ayr, and Greenock in Scotland over 11 million tons. *Third Annual Report of the Secretary of Mines for the Year Ending December 31, 1923.*

The supply of coal for inland industrial use is mined primarily in Yorkshire, Lancashire, and the Midlands. Within the last 30 years, the new fields of South Yorkshire and Nottinghamshire have come to assume a dominant position in the industry. Covering an area of approximately 600 square miles, these fields with newly equipped and modern mines promise shortly to be the most important producers in Great Britain. It is highly probable that a small new area in Kent, within 50 miles of London, where development work is now proceeding, will afford to the metropolitan area a supply of easily accessible coal.

used of old.”⁷ By the middle of the sixteenth century the use of coal had so far extended to the Continent of Europe that a flourishing export trade from England had developed. And at that early day the coal export trade was, even as now, a source of worry to the ruling powers. For we find Parliament in 1549 and again in 1552 concerned about the export coal trade. The problem in those days, however, was not one of stimulating exports; it was rather one of restricting them lest they drain the resources of the country. In that day, too, we find on the River Tyne a full-fledged monopoly of coal owners, the first in Great Britain.

During the seventeenth century coal became an important source of revenue to the Exchequer. Both the coal itself and the chimneys which made possible its combustion had become subject to tax. Indeed, the City of London found in the import duties imposed on coal the funds which paid for rebuilding St. Paul's Cathedral and some 50 parish churches destroyed in the fire of 1666.

It was in the eighteenth century, however, that coal first became of vital importance in the industrial development of Great Britain. It made possible the regime of steam power, and not alone because of its efficiency under the boiler. It was coal which enabled the iron masters to produce cheap iron and

⁷ Galloway, Robert L., *A History of Coal Mining in Great Britain*, London, 1882.

Richard Fynes, the historian of the Northumberland miners, quoting from Stowe, says that “the nice dames of London in the early part of the sixteenth century will not come into a house or room where sea coales are burned, nor will they willingly eat meat that has been sod or roasted in a sea coale fire.” Hodges, Frank, *Nationalization of the Mines*, London, p. 17.

in later years cheap steel. Cheap iron meant cheap engines and cheap machinery, and these in turn made possible the utilization of large quantities of coal for power purposes. Prior to the early eighteenth century the smelting of iron was dependent upon distilled wood—charcoal—the supply of which was fast disappearing. The discovery of how to use coal in the smelting of iron gave to the metallurgical industries what was virtually an endless supply of a cheap substitute for charcoal. As a result the supply of cast iron grew at a tremendous rate, followed by a stream of the products of iron. Thus was created a new use for the mineral which in former years had served primarily as a fuel for smithing and domestic heating.

As the coal trade expanded the mining industry found it increasingly difficult to meet the demands imposed upon it. The existing technical equipment put a check upon the output of coal and the industry found itself forced to look around for new ways of overcoming the obstacles presented by depth of workings, water, and haulage distances. Thus it was that the first “fire” engines invented by Captain Savery (1702), destined to be the means “of doubling, if not trebling the importance of the mining industry,”⁸ were installed in coal mines to pump water from the workings to the surface. Thus it was, too, that in the middle of the seventeenth century the first railways in England were introduced by the coal mine owners. So likewise the first steam engine—The Newcomen “atmospheric engine”—was

⁸ Galloway, Robert L., *A History of Coal Mining in Great Britain*, p. 79.

built at a colliery in Staffordshire in 1712, an engine which for the first time made it possible to keep the water in the pits under control and to work the deepest seams known at the time.

With the Newcomen steam engine it became possible to mine coal seams previously considered unworkable. Its adoption by the mining industry was widespread, and by 1720 it was to be found in virtually every mining district. Its relation to the coal industry was a dual one. While the steam engine made available seams which could not otherwise be mined, coal, on the other hand, furnished a cheap fuel which made practicable the industrial use of steam power. Moreover, by making possible the production of cast iron in larger quantities and at lower cost than ever before, this new fuel provided also the basis for making steam engines at a cost within the means of many who could not otherwise have used them.

When in the early eighteenth century the iron trade of Great Britain was fast dying for want of suitable fuel, the discovery that coal could be effectively used in the place of charcoal for smelting proved to be the salvation of the industry. It was this discovery that made it possible about 1740 for the iron industry to go in for the making of cast-iron cylinders for steam engines. The production of large cylinders became a relatively simple thing. From this time on, indeed, the production and general use of steam power was practically assured.⁹

The invention of the double-action steam engine

⁹ Hammond, J. L. & B., *The Rise of Modern Industrialism*, 1926, Chapter IX.

by Watt, and the invention of the steam locomotive, both of which found their original use at coal mines,¹⁰ led to a further expansion of the iron trade. Soon there followed a tremendous growth in the products of iron and later of steel. The production of machinery and of every kind of goods that could be made by steam-driven machines,¹¹ grew by leaps and bounds, accompanied by an ever-increasing expansion of the coal trade. Production of iron increased from 170,000 to nearly 400,000 tons in the first 15 years of the nineteenth century; and imports of raw cotton for the newly mechanized textile industry were almost doubled. In 1815 these two industries alone consumed over 1,700,000 tons of coal.

The coal trade was fast assuming a dominating position in the life of Britain. The second 15 years of the century saw the output of coal double, and by 1850 production equaled some 56,000,000 tons. In the latter year the industry was employing some 200,000 miners.

While Great Britain was developing her coal industry the Continent of Europe was in the throes of a succession of devastating wars. When, finally, a semblance of political stability appeared, England was already in the field with well-equipped mines and a potential capacity to meet any fuel needs that might arise. The Continent, to be sure, had been in part dependent upon Great Britain for its coal supplies even as far back as 1552 when "Newe-castele coles" were described as "that thing that France can

¹⁰ *Ibid.*, p. 122.

¹¹ This was particularly true of machine-made textiles.

no more lyve withoute than the fyshe withoute water." ¹² The actual amount of British coal shipped abroad was, however, relatively small as compared with the total production. Estimates for the year 1800 place British exports at about 225,000 tons, that is, 2 per cent of the total coal mined. ¹³ Export duties at home and import duties abroad hindered foreign shipments during the first half of the nineteenth century. Exports nevertheless progressively increased and by 1840 they reached a total of 1,606,000 tons, an amount within 400,000 tons of the total output of the United States in that year. In 1850, when all the duties on coal had been repealed, ¹⁴ exports equaled 3,800,000 tons. In the 20 years following they grew to over 14,000,000 tons and the early seventies saw Great Britain exporting one-eighth of her total production of 110,000,000 tons.

From 1850 onward the growth of the coal export trade was continuous. During the second half of the century four out of every five years showed an increase in exports over the year preceding. ¹⁵ Though sales to certain countries occasionally declined, the growth of shipments in other directions usually outweighed such losses. Irrespective of general conditions the growth of the coal trade continued, and financial panics, famine prices, and commercial depressions, though no doubt exerting their influence, were "hardly traceable in the total export figures." ¹⁶

¹² Thomas, D. A. (later Viscount Rhondda), "The Growth and Direction of Our Foreign Trade in Coal During the Last Half Century," *Statistical Journal*, Vol. 56, p. 442.

¹³ *Ibid.*, p. 441.

¹⁴ *Ibid.*, p. 443.

¹⁵ *Ibid.*, p. 467.

¹⁶ *Ibid.*, p. 467.

AVERAGE ANNUAL EXPORTS OF COAL FROM THE UNITED KINGDOM *

Year	Quantity of Coal Exported (including bunkers)	
	Millions of Tons	
1855	4,977	
1856-60	6,695	
1861-65	8,482	
1866-70	10,313	
1871-75	16,644	
1876-80	20,790	
1881-85	28,451	
1886-90	34,490	
1891-95	40,517	
1896-1900	51,039	
1901-05	62,994	
1906-10	83,115	

* Data from Jevons, H. S., *The British Coal Trade*, p. 676, London, 1915.

The growth of the coal trade during the last 30 years of the nineteenth century far outran that of any other trade in Great Britain. Though production more than doubled, exports grew more than fourfold. By 1900 Great Britain's oversea trade in coal (including bunkers) was over four times that of all the rest of the world put together, and exports alone were giving employment to more than 200,000 miners.¹⁷ It was this increase in coal exports that accounted in considerable measure for the prosperity commonly attributed to the British foreign trade of this era. Of the addition of £92,000,000 to the value of British exports in this period the item of coal constituted some £42,000,000; that is to say, over 45 per cent. The volume of coal sales abroad increased almost eightfold. Were it not for coal the value of British exports would have shown but little growth

¹⁷ Thomas, D. A. "The Growth and Direction of our Foreign Trade in Coal During the Last Half Century," *Statistical Journal*, Vol. 56, p. 454.

in the last 20 years of the century.¹⁸ Excluding coal, the value of exports, though the largest in Great Britain's history, averaged only about £5,000,000 more in the five years ending with 1900 than in the years 1881 to 1885; the value of coal exports, on the other hand, grew meanwhile by some £12,000,000.

VALUE OF EXPORTS FROM THE UNITED KINGDOM, INCLUSIVE AND EXCLUSIVE OF COAL, IN MILLIONS STERLING *

Year	Total exports Pounds	Coal, coke and patent fuel Pounds	Total, exclusive of coal, etc. Pounds
1851-55	88.9	1.8	87.1
1856-60	124.2	3.1	121.1
1861-65	144.4	4.0	140.4
1866-70	187.8	5.4	182.4
1871-75	239.5	10.5	229.0
1876-80	201.4	7.9	193.5
1881-85	232.3	10.5	221.8
1886-90	236.3	13.0	223.3
1891-95	227.0	16.6	210.4
1896-1900	249.1	22.3	226.8

* Thomas, D. A., "The Growth and Direction of Our Foreign Trade in Coal During the Last Half Century," *Statistical Journal*, Vol. 56, p. 447.

As a cargo provider for outward bound vessels the coal trade played an important part in lowering the cost of British imports. Comprising more than four-fifths of the weight of outward shipments, coal furnished a paying cargo for ships which brought back to Great Britain the food and raw materials upon which the nation depends. Without this cargo a large portion of outward journeys would have been made in ballast and the goods carried on the homeward journey would have had to bear the cost

¹⁸ It should be remembered that Great Britain's ability to export finished manufactured goods was in itself partly the result of the available supply of cheap coal.

of the round-about voyage, with consequent higher prices for imported materials. Authoritative opinion holds it "hardly conceivable" that Great Britain's foreign trade could have maintained its position had it not been for the outward freight provided by coal.¹⁹ In the single year 1900 the revenue earned in conveying coal abroad amounted to something like £20,000,000, an amount which had no little effect upon the cost of Great Britain's raw materials and food.²⁰ And it is the delivered cost of both of these that determines in large part the competitive position of Great Britain in the world's markets. The cost of raw materials plays an appreciable part in determining the cost of British manufactured products, and the cost of food has an important bearing upon the wages that must be paid to British labor.

By the end of the nineteenth century the British coal industry had assumed a position far more important than that anticipated by even the most optimistic. It had become the foundation of Great Britain's industrial prosperity; it determined to a large degree the position of Great Britain's balance of trade; it was a factor in the price of food and raw materials. Coal production had grown to 225,000,000 tons; exports to 58,400,000 tons; and from the industry more than 750,000 workers were deriving a livelihood.

The coal industry at this time was in an exceedingly profitable position. Its growth had not been, as might be expected, the result of a continued fall in the price of its product. The actual price of coal

¹⁹ *Ibid.*, p. 454.

²⁰ For a discussion of the relation of export coal cargoes to the cost of imported food and raw materials, see Appendix A.

when compared to the general price level was in fact increasing. Relative to prices in general the price of a ton of coal was at least 50 per cent higher in 1900 than in 1850.²¹

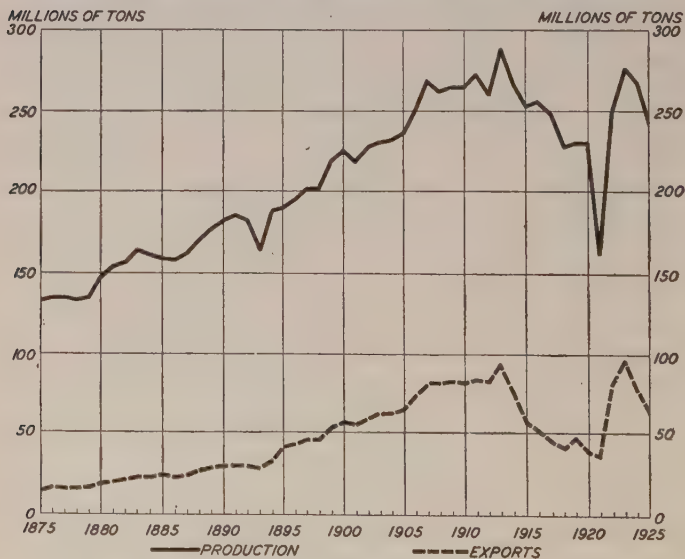
The growing value of coal was giving to both the owner and the miner an increasing share of the national income. The opening years of the twentieth century found the coal industry in a condition of prosperity surpassing that of any other in Great Britain. So great indeed had been its progress that to many an industrial leader the vital question at this time was: How long can such growth and development continue? It appeared as if there must soon be an end to such phenomenal progress. The events of the near future were, however, to show that such opinion was without basis. The first 13 years of the new century saw the growth of the preceding decades not only maintained but even surpassed.

In the years 1900 to 1913 the coal industry assumed a position in the economic life of Great Britain which appeared almost unassailable. Its production increased by more than 62,000,000 tons, and though its output was surpassed by that of the United States its annual production was greater than that of all of the rest of Europe combined. Of the annual growth of production of some 5,000,000 tons about 2,500,000 were consumed in Great Britain; the remaining half went to swell the ever-increasing exports to foreign countries. The growth of coal exports which had appeared so phenomenal in the

²¹ Royal Commission on the Coal Industry (1925) *Report*, Vol. 1, p. 128; and Thomas, D. A. (later Viscount Rhondda), "The Growth and Direction of our Foreign Trade in Coal During the Last Half Century," *Statistical Journal*, Vol. 56, p. 481.

preceding century pales into insignificance when compared to the increase from 58,400,000 to 98,300,000 tons²² in this short period. In these 13 years British coal exports increased by an amount almost equal to the growth experienced in the entire half century preceding. By 1913 it had attained a value of over £50,000,000, an amount which was equal to approximately 10 per cent of the nation's total exports.²³

BRITISH PRODUCTION AND EXPORT OF COAL, 1875-1925*



* Exports, 1895-1925, include bunker coal.

Sources of data: Production, Royal Commission on the Coal Industry (1925), *Report*, Vol. III, p. 37.

Exports, *Ibid.*, pp. 37 and 251, and *Statistical Abstract for the United Kingdom*, Nos. 57 and 59.

²² Includes bunker coal.

²³ Coal Industry Commission, *Report*, Vol. III, p. 29, 1919.

When war was declared in 1914 there was no industry in Great Britain more essential to the nation's existence. From 3,100 mines with an invested capital of £135,000,000 came a product worth £136,000,000.²⁴ From these mines more than 1,118,000 men were deriving a livelihood. To these workers and their families, approximately 10 per cent of Great Britain's population, £93,000,000 was paid in wages. From these same mines, too, 3,800 royalty owners were securing an annual income of approximately £6,000,000, and some 130,000²⁵ investors were receiving a profit of £13,000,000.²⁶ An industry with wages substantially higher than in most others in Great Britain; with unemployment almost negligible; with conditions constantly improving and an accident rate continually decreasing—an industry which, for almost three-quarters of a century, had been enjoying the fruits of uninterrupted growth and progress—such, in short, was the picture of British coal mining in the year preceding the outbreak of the World War.

²⁴ Royal Commission on the Coal Industry (1925) *Report*, Vol. III, p. 4.

²⁵ Coal Industry Commission, *Minutes of Evidence*, Second Stage, p. 1204, 1919.

²⁶ Stamp, Sir Josiah C., *ibid.*, p. 35.

CHAPTER III

APPROACHING THE IMPASSE

Like all other human arrangements the coal industry was to be profoundly affected by the four years of World War. Like other industries it was to experience abnormal demands for its products, and it was to find itself deprived of a large part of its labor supply. Like others, it was to abdicate its age-long prerogative of managing itself and submit to the control of an authority created by the State. In common with other economic institutions it was to find, after the cessation of hostilities, a new social and economic setting in which to function. To this new setting, the coal industry had to become adjusted, and it is in some degree from the pains of this adjustment that it is today suffering. Its complacency, bred of pre-war prosperity, was to be challenged by social forces crystallized during the war, and economic forces were to awaken it to the fact that the new era paid little homage to age or former leadership.

I. THE PRESSURE OF WAR REQUIREMENTS

The declaration of war in the summer of 1914 saddled upon the coal industry burdens heavier than those imposed upon almost any other in Great Britain. The coal industry was called upon to meet the additional fuel needs of the munition makers and

of the chemical industries which used coal as the basis for explosives. The Royal Navy pressed for tremendous supplies of coal, as did also France, who, deprived of her own mines and cut off from German sources of supplies, soon demanded from England twice the 11 to 12 million tons that she previously had been taking. Though the cessation of exports to Central Europe freed a considerable amount of coal for these essential needs, the coal industry still found it difficult to meet the demands that were being made upon it. The fighting forces were depleting the mines of their labor supply, and it was impossible to maintain production with the labor force available.

In the first seven months of hostilities the British mining industry lost through enlistment more than 191,000 miners, or over 19 per cent of its total personnel. By the end of the first year, over a quarter of a million miners had entered the fighting ranks, and with this depleted force the industry was asked to maintain its output undiminished. The men who had enlisted, moreover, were the younger men—40 per cent of those between 19 and 38 having joined the army—and the task of meeting the Allied fuel needs fell upon the shoulders of the older miners and upon the untrained new recruits.

The needs of the situation were at first met by curtailing coal shipments to neutral countries, by adopting consumption economy measures, and by various other expedients aimed primarily at keeping the miners' output at a maximum. Such activities were supervised by a Coal Mining Organization Committee, an organization made up of miners' and

owners' representatives and headed by His Majesty's Chief Inspector of Mines. Output was stimulated by cutting down absenteeism among the miners, by reorganizing production within the mines with a view to concentration on the better and more easily worked seams, and by the abandonment of developmental work. These measures proved highly effective, and 1915 saw the output of the British miner at a higher figure than it had been in any year since 1907.

As time went on, however, the British mines found it increasingly difficult to meet the insatiable demand for their product. For a while the restriction of shipments to neutrals was a satisfactory means of enlarging the supply available at home, but there was a limit to which such shipments could be curtailed. The fact was that Great Britain was in part dependent upon coal exports to neutrals for maintaining the value of her currency on the foreign exchange market. It was with coal that she was paying for many of her purchases abroad, and it was indeed only in exchange for coal that some neutrals would give to Great Britain certain raw materials which she needed for the prosecution of the war. It was in exchange for coal that she got from Norway and Sweden the pit timber that she needed for her mines and some of the high quality iron ore and steel upon which her heavy industries were dependent. Moreover, it was coal that enabled Great Britain to exert pressure on neutral ship owners and manufacturers and to persuade them either to give aid to her Allies or to abstain from extending facilities to her enemies.

England, in short, was between two millstones: the needs of her own industry, and the demands of neutrals whose products she required. The demands at home eventually took precedence over shipments abroad. During the year 1916 embargoes were imposed upon coal exports, and stringent regulations were made for the conserving of the better grades of coal.

II. GOVERNMENT CONTROL

In February, 1917, under Act of Parliament the entire industry was put into the hands of a Coal Controller¹ and a large measure of financial control, such as the fixing of standard profits and the determining of dividend policies, was effected. Under the direction of the Controller and his subsidiary committees the inland distribution of coal was regulated, that is, geographical limits were set for the distribution of each district's output; pit prices and prices to the Allies were regulated; exports to neu-

¹ Until the latter part of 1916 the coal industry was operating under a regime of what might be called "controlled competition." That is to say, each mine was operated as an independent unit, with a minimum supervision by the Coal Mining Organization Committee. The sale of coal for export was regulated, as were also prices at the pit head. In addition, priority in shipment had to be given to essential industries. But beyond this the organization of the industry was essentially that which prevailed in pre-war years, with each unit managing its own affairs much as in the past.

Later in 1916 it became evident that to secure the nation's coal requirements a more effective method of control would have to be adopted for the industry. Labor difficulties in certain places had already led to the government's taking over the mines of South Wales under the Defense of the Realm Act. Taking over these mines was, however, but little more than a formality which enabled the government to bring a modicum of peace to the area. The collieries were in fact ordered to carry on as usual, subject to instructions of a committee which, incidentally, met on only three occasions.

trals licensed; and the profits of wholesalers and retailers fixed. But the industry, even though under control, still continued to function under existing management, subject to the right of the Controller to assume the management himself, and to order the opening or closing of mines at any time that he might see fit. Though the areas to which the individual collieries could ship their products were, because of the transportation situation, specifically designated by the Controller, sales within these areas were with but few exceptions made along the customary competitive lines. Coal still continued to be carried in cars owned by either the collieries themselves or private car companies.² The government, to be sure, did have power to requisition such privately owned cars as it saw fit, but it rarely used this power.

In spite of the activities of the Coal Controller, the continued depletion of the miners' ranks, both by military requirements—some half million in all had gone into the fighting services before the war was over—and by the ravages of an influenza epidemic, made it virtually impossible to secure the supply of coal necessary to the successful prosecution of the war. The production of 1918—236,000,000 tons—was almost 30,000,000 tons smaller than that of 1916. In July, 1918, the government found itself unable to fulfill its coal obligations to France, to the American Expeditionary Force, and to certain neutrals. By August, conditions had become so pre-

² Though such railways as owned their own coal-carrying cars had to a large degree pooled their equipment prior to the advent of formal government control, attempts to get private owners to act similarly failed.

carious that it was decided to bring back from France a portion of the miners in the fighting service. England was threatened with a coal famine which would have become acute but for the advent of the Armistice.

Nor did the shortage of coal supplies cease with the declaration of peace. It was no simple matter to raise the output of the British mines over night. For a long time after the Armistice it was necessary to continue the enforcement of economy consumption measures and the restrictions on prices and exports. Export coal remained in very great demand, and prices secured abroad were beyond reason.

III. IN QUEST OF A NEW ORDER

The cessation of hostilities found the British coal industry in a highly disorganized condition. Its labor force had been depleted, and even though many miners were immediately returned to the pits it was months before they were able to orient themselves anew. Wages were high, materials were at unprecedented prices, and the physical condition of the mines was at a very low ebb. For four years there had been practically no development work, and there were few or no new sections in any of the mines available for immediate exploitation. And at this time, more than ever before, the situation was one which demanded new areas from which coal might be mined. The exigencies of the previous years had forced the colliery managers to concentrate on the better and more easily mined seams, and many of the mines found themselves with most of their better resources gone. Many mines, too,

lacked the necessary equipment for efficient production, the scarcity of materials having prohibited replacements and new installations in the years immediately preceding. The industry as a whole was, however, in a financially comfortable position, and the high prices received for such coal as could be exported were bringing a surplus to the British Treasury.

The miners, it appears, felt that they were not having their due share of this prosperity. They insisted that their wages had not kept pace with the rising cost of living, and in January, 1919, two months after the Armistice, they made a series of demands upon the government.³

The government, still in control of the industry, offered certain concessions⁴ which the miners refused to accept and they voted to strike on March 15, 1919. The strike was later postponed on the promise of the Prime Minister to appoint in the interim a Committee of Inquiry into the Coal Industry with a personnel satisfactory to the miners. This committee was to issue a preliminary report on wages and hours before the 20th of March. If the preliminary report was successful in tiding over the

³ They asked for a 30 per cent increase on their earnings (excluding the flat increases granted as extra war wages) and demanded that all miners be discharged from the fighting services and immediately reinstated in the mines they had left at the time of enlistment. Aware of the difficulties involved in taking care of all the returned miners, they added a demand for a six-hour day. They urged too that the government "proceed at once to the nationalizing of all mines and minerals."

⁴ The government offered a flat wage increase of one shilling a day; rejected the demobilization demand; and proposed to refer the remaining demands to a Committee of Inquiry.

immediate wage crisis, the Committee was to consider further the other demands of the miners.

On March 1, 1919, a Coal Industry Commission was appointed, a body since known as the Sankey Commission. It consisted of representatives of the owners, the miners, and the government, with Mr. Justice Sankey as Chairman. The miners understood that the government would adopt the recommendations of the Commission, whatever they turned out to be.⁵ The Commission began its hearings on March 3, made a thorough investigation of conditions in the coal trade, issued preliminary reports on March 20th and a final report about three weeks later.

The most significant of the preliminary reports⁶ was that of the Chairman. He recommended a seven-hour day underground and suggested that if

⁵ The Home Secretary in discussing the Coal Industry Commission Bill had said: "If it turns out on investigation that it is for the good of the country as a whole that the mines should be nationalized . . . then it is a good business proposition and we should accept it." Cole, G. D. H., *Labour in the Coal Mining Industry*, Oxford, 1923, p. 113.

⁶ The preliminary report consisted of three documents—one signed by the miners' representatives and two economists whose appointment had been agreed upon by the miners and the government; a second signed by the three direct appointees of the owners; and a third submitted by the Chairman and agreed to by the three government appointees, each of whom was a large employer of labor. The miners' report recommended the wage increase demanded by the Miners' Federation, that is, an advance of 30 per cent on current earnings, and a six-hour day. To the six-hour day was to be added one winding time, making the total number of hours underground six and one-half. It urged too, that "in the interest of the consumers as much as in that of the miners, nationalization ought to be, in principle, at once determined on." The owners' report suggested a wage advance of 1s. 6d. for adults and one-half of this amount for boys, and the institution of a seven-hour day underground.

the economic position of the industry should later justify it, a six-hour day be instituted at the end of 1920. A wage increase of 2 shillings for adults and a levy of one penny per ton on all coal raised, to be applied to the improvement of miners' housing and to other amenities were also recommended. Lest some of the increased costs arising from the application of these proposals be shifted to the consumer, the report suggested that state control of the mining industry be continued and that the owners' profits be limited to 1 shilling 2 pence per ton until full decision as to the industry's future regulation should be agreed upon.⁷ Though this preliminary report made no definite proposal as to the organization of the industry, it did say:

"Even upon the evidence already given, the present system of ownership and working in the coal industry stands condemned, and some other system must be substituted for it, either nationalization or a method of unification by national purchase and/or by joint control."⁸

The government accepted Mr. Justice Sankey's report, granted the recommended wage increase, and by Act of Parliament enacted a seven-hour law.

The final report of the Sankey Commission dealt primarily with the question of the organization and ownership of the mining industry. The miners had demanded public ownership of both the coal resources and the mines themselves and had submitted a plan for their administration. They, as

⁷ Coal Industry Commission, *Interim Report*, by Mr. Justice Sankey (Chairman), Mr. Arthur Balfour, Sir Arthur Duckham, and Sir Thomas Royden, Bart. March 20, 1919, p. x ff.

⁸ *Ibid.*, p. viii.

well as other advocates of public ownership, justified their demand by pointing to the wastes involved in the system of divided ownership. The Commission as a body was unable to reach an agreement as to just how the industry should be organized, and four separate final reports were submitted. These reports were, however, unanimous in recommending that the state acquire complete ownership of the nation's coal measures.⁹ They agreed further that some reform in the method of retail coal distribution should be instituted and suggested that local government authorities (municipal and the like) and coöperative societies be employed in the selling of coal to retail consumers. Beyond these proposals, the report of the owners, joined by two of the government's representatives, recommended that the organization of the industry continue very much as in the past.

An important report submitted by Sir Arthur Duckham,¹⁰ an appointee of the government and a mining engineer, stated that "grave losses to the community have been caused by lack of coördination in the efforts of private enterprise" and suggested the creation of district corporations with workers' representatives on the boards of directors to supplant the multitude of existing individual mine owners.

The report of the Chairman of the Commission

⁹ The miners demanded that no compensation be paid to the owners for the mineral rights to be acquired. They insisted that the land owners rendered no equivalent service for the annual royalties of 30 million dollars which they received from the mining industry.

¹⁰ See Chapter XI.

was essentially in agreement with that of the miners' representatives. Both recommended government ownership of coal resources and of the mines. They differed primarily in their suggestions in regard to the machinery of management.

The only definite legislation resulting from the Sankey Commission was the enactment of the seven-hour day. The report, however, was to have a far-reaching effect upon the movement for the nationalization of mines. It added vital force to the miners' demands and aroused public interest in the issue; so much so in fact, that the mine owners have come to look upon the report as a great catastrophe. The miners felt that the rejection by Mr. David Lloyd George, then Premier, of the recommendations for the nationalization of mines was a great betrayal and they rejected an alternative scheme sponsored by the government which was essentially that proposed by Sir Arthur Duckham. The miners recorded "their regret that the government has no better scheme than the creation of great trusts to secure the economic well-being of the industry," and turned to the Trades Union Congress for aid in mobilizing British organized labor in support of the nationalization movement.

Failure on the part of the Trades Union Congress to persuade the government to adopt nationalization was followed by a two-month "mines for the nation" educational campaign which attempted to convert public opinion to the need of public ownership of the mines. The campaign had little effect upon the government and the miners asked the trade unions of Great Britain to take part in a general strike for

nationalization. This request the Trades Union Congress refused to grant. It decided rather to employ political action as the means of obtaining government ownership: that is, to press for a general election.

The hopes of the miners, aroused by the Sankey Commission, were shattered. The chance of securing immediate nationalization collapsed. It became evident that the miners could better their condition only by the more direct route of demanding higher wages.

IV. THE PROSPERITY OF 1919-20

In the interim, significant things were happening to the finances of the coal industry. Though the price of coal in the domestic market was still fixed by the government, the prices charged to foreign buyers (including the Allies) had been freed from control. Europe was hungry for coal. The Continent was in the midst of the post-war boom and there appeared to be no limit to which it would not go in order to secure its fuel supply. But while the Continent wanted coal, the British coal industry was finding its output more and more restricted. As has already been stated, the returning miners were having difficulty in getting back into their stride, and many pits were suffering from the war-time exploitation of their best reserves and the shortage of equipment. Nor was there effective stimulus to overcome these difficulties. The industry was still under government control and profits were both guaranteed and limited, a policy which was little conducive to efficiency and large output. Then too,

the question of nationalization was still to be decided upon, and the fear that government ownership might become a reality played an important part in deterring the mine owners from doing anything which involved considerable expenditure.

The restricted capacity and the general industrial boom were conducive to the skyrocketing of prices. Export prices in some cases rose from 37 shillings to 100 shillings within the twelve months of 1919. Although the amount of coal shipped abroad in that year was but 4,200,000 tons more than in 1918, the value of exports rose by over £40,000,000. The deficit which, it had been feared, the higher costs resulting from the Sankey Wage Award would bring to the British Treasury, actually turned out to be a surplus of some £170,000,000.¹¹

Throughout the year 1919 and the greater part of 1920, unparalleled prosperity characterized the coal trade. Aided by a temporary restriction on exports (enforced in order to build up domestic reserves in anticipation of labor difficulties) and a 2½ week shutdown in the autumn, coal exports in 1920, though 10,000,000 tons smaller than in 1919, attained the value of £120,000,000, an amount £28,000,000 larger than their value in the preceding year.¹² Domestic prices, it should be borne in mind, were still controlled by the government and though many mines catering to the domestic trade were being operated at a loss, the surplus available from the export branch of the industry easily made up for

¹¹ Redmayne, Sir R. A. S., *The British Coal Mining Industry During the War*, Oxford, 1923, p. 228.

¹² *Ibid.*, p. 225.

such deficits and left a comfortable balance in the Treasury.

In view of this surplus one can easily realize why the British government was anxious to maintain at as high a level as possible its exports to the Continent. So anxious was the government, indeed, that in granting a wage increase to the miners after a short strike in 1920, it prescribed that the extent of the wage increase was to vary with the size and value of the total output of the mines. And so great was its confidence in the future of the export trade that it went so far as to guarantee to the industry an export price of 72 shillings a ton.¹³

V. THE UNEXPECTED DEPRESSION OF 1921

The expectations of the government failed, however, to materialize. For the coal trade was shortly to feel the brunt of the worldwide depression which engulfed all industry. During the last few weeks of 1920 a price recession began in the coal export market. Moreover, France was beginning to get increasing quantities of reparation coal; the United States was taking advantage of European prices and shipping large quantities of coal to the Continent; and the French and Belgian mines, idle for almost six years, were beginning to send their product into their former markets. As a consequence France saw no reason for continuing to pay the high coal prices that had been prevailing. Through the *Bureau Des Charbons*, the French government fixed the price at which British coal could be sold in

¹³ *Ibid.*, p. 242. At par of exchange 72 shillings is equal to approximately \$17.50.

France, a price which was considerably below the current figure. Indeed, the price of certain types of coal was fixed at a level as much as 30 shillings below that agreed upon in contracts with the British for delivery for the coming year.¹⁴ The new market condition led to a precipitate collapse of British prices and the government found itself with an unexpected burden on its hands. It had guaranteed profits to the coal owners, and having limited prices at home it had figured on realizing those profits through sales abroad. During the early months of 1921 a drain on the Treasury began and on the basis of January's deficit alone it became evident that to continue state control and guarantee profits until August 31, the date at which, according to a former announcement, government control was to cease, would mean a loss of about £40,000,000.

In February, 1921, the government suddenly announced that state control of the mining industry would cease at the end of the following month, March 31st. The reason given was that it was no longer necessary to protect home industry against high prices. The slackened demand both at home and abroad had in the opinion of the government "removed the risks of a short supply within the United Kingdom." To this sudden removal of state control the owners strenuously objected. They insisted that in order to keep the industry going, the prevailing high wage rates would have to be lowered, and that inasmuch as the government had granted these high wages it was unfair to leave the burden of wage adjustments to the private owners. Moreover, they asserted that it was unfair for the

¹⁴ *Ibid.*, p. 238.

government to return the mines while in so bad a condition. The government, they felt, should give back the mines only after they had been rehabilitated to a condition equal to that which existed when they were taken over. The miners also resisted the advent of decontrol, for they realized that it would mean the beginning of the end of their hard-won wage advances. To these complaints the government paid little heed, and on March 31, 1921, all control over the coal mining industry ceased.

VI. STRUGGLING AGAINST DEFLATION

For some weeks before the government relinquished control it had been apparent that a battle between the miners and the owners to determine how many of the gains secured by labor during the previous four years could be retained was imminent. In settling a short strike in the previous autumn the government had specified that the owners and the miners must get together and come to some agreement as to methods of adjusting wage rates in the future. Negotiations had been taking place, and certain essentials of wage adjustment had been tentatively agreed upon.¹⁵

¹⁵ These were, briefly, (1) that wages must conform to the capacity of the industry to pay them; (2) that the workers were entitled to a standard wage, and the colliery owners to certain minimum profits; and, (3) that any surplus remaining after wages, minimum profits and working costs had been met should be divided among the owners and the workers in agreed proportions. The worker's share was to be paid him in the form of an addition to a standard wage. This arrangement for the determination of wages called for considerable information relative to costs, and the proposed agreement therefore provided for periodical joint audits of the owners' books by accountants representing both sides. For the first time in history the miner's wage was to be related to the cost of coal and the profits of the industry. Formerly his wages varied with the selling price of coal; now, costs were also to play a part.

There was one matter, however, which was destined to be a stumbling block. This was the demand of the miners that wages continue to be fixed as during control on a national basis; that is to say, standard wage rates should be arrived at through the medium of a National Wages Board, and the receipts of the industry as a whole pooled, so that the more profitable districts could subsidize the poorer ones. The miners had been pressing for a national agreement even before the advent of the World War, and having in part attained it they were reluctant to give it up. The owners refused to consider the question of a National Wages Board and insisted that the industry revert to its previous practice of having the wages of each district determined locally by District Boards.

While negotiations were going on coal prices were falling, the loss to the Treasury in March, the last month of control, being close to seven shillings a ton. It was evident that wages would have to be cut immediately, irrespective of the decision as to a National Wages Board. Unable to come to a decision on the latter issue, negotiations were broken off, and on April 1, the day after the government relinquished control of the industry, a stoppage occurred.

The miners had been depending for aid upon their colleagues in "The Triple Alliance."¹⁶ They had been promised the help of the Transport Workers'

¹⁶ During the railway, transport and mining strikes of 1911-12 the trade unions in these three industries learned that a dispute in any one of them necessarily dislocated the others. This experience had paved the way toward a "Triple Alliance" of miners, railwaymen and transport workers. Its formation was temporarily interrupted by the outbreak of the war, but it was finally consummated in December, 1915. This alliance was "on

Federation and the National Union of Railway Men in the event of a stoppage and both organizations had in fact issued orders for a sympathetic strike to help the miners. On "Black Friday," April 15, 1921, these two organizations suddenly rescinded their strike orders. This action they claimed was justified because of the refusal of the miners to accept the temporary settlement that had been suggested by the Prime Minister.¹⁷ An embargo was placed on the handling by their members of imported coal supplies, but beyond this they left the miners to wage their own battle. The miners continued their struggle for a national agreement and a national wages pool and refused several offers from the government which undertook through a subsidy of £10,000,000 to fix for a temporary period a limit to the wage decline that the miners would have to suffer. When finally it became apparent that there was little chance of the miners realizing their aims, and they had decided to accept the government's proposals, the time limit which had been put on the subsidy offer had expired. The miners in exasperation called upon the unions in other industries affected by wage disputes to meet with them "with the object of taking national action . . . to secure their mutual demands." The other unions "saw nothing to be gained and much to be lost by linking their fortunes with those of the miners, who were now manifestly at the end of their

paper, at least, the most formidable industrial organization in the world." Cole, G. D. H., *Labour in the Coal Mining Industry*, Oxford, 1923, pp. 15-30.

¹⁷ The Prime Minister, Mr. David Lloyd George, had invited the miners to meet with the owners to consider the question of wages and to make a temporary agreement. The miners refused to make any temporary settlement which did not include a National Wages Board and a National Pool.

resistance.”¹⁸ Upon their refusal to confer with the miners the latter in despair asked for a conference with the owners and the government, with a view to negotiating a settlement.

Thus, on July 1, after three months of what had up to date been the “most serious stoppage in British industry,” the miners’ strike came to an end. In the terms of settlement were incorporated the new principles of wage negotiation, and provision was made that the miners should share in the surplus earnings of the industry. But there was no provision for a wages pool.

The agreement which terminated the strike of 1921 was destined to be one of the most important in trade union annals. It was the first national agreement between owners and men ever concluded in the industry.¹⁹ Whereas all former agreements had been made by districts, that of 1921 was made by the Miners’ Federation of Great Britain and the Mining Association of Great Britain. Since the agreement expired in all districts at the same time it made possible without difficulty the declaration of a national strike or lockout. By fixing a uniform minimum addition to wage rates for all districts it placed all competing districts on the same plane as far as wage changes were concerned. As we shall later see, this agreement, with some minor changes made in 1924, was to be an important factor in the seven-month stoppage of 1926.²⁰

¹⁸ Cole, G. D. H., *Labour in the Coal Mining Industry*, Oxford, 1923, p. 233.

¹⁹ During the period of government control, wages were fixed nationally by a Government Board.

²⁰ In bringing about a stoppage in May, 1926, the owners had as their purpose the abrogation of the national agreement. The minimum wage rates to be paid in the various districts could in

What, then, were the essential features of this agreement? According to its provisions the country was divided into 13 districts, and standard district rates were fixed for the various classes of work to be done in each district. These standard or basic wage rates were approximately 10 per cent higher than those that prevailed in the respective districts in 1914. Corresponding to the standard wage there was to be a standard profit equal to 17 per cent of the total amount paid out in each district as standard wages. After these two amounts and other ascertained costs of production had been provided for, such surplus as remained in any district at the end of an accounting period—that is, one month²¹—was to determine the additions to be made to wages and profits during the next accounting period. That is to say, the total wages to be paid to the miners of any district during a given accounting period were to be made up of the standard wage plus an amount equal to 83 per cent of the surplus shown for the previous accounting period for that district. The profits for a given district, on the other hand, were to consist of the standard profits plus an amount equal to 17 per cent of the ascertained surplus of the preceding accounting period.

their opinion no longer be determined nationally. They insisted that the minimum to be paid in each district should be determined by local conditions and they were bent upon using every effort to revert to the early practice of making district agreements. The miners, on the other hand, were equally determined to maintain both the national agreement and the uniform minimum wage rates. They had struggled for generations to build up a national union to secure these very things. When finally the issue was drawn it resolved itself into the question of whether the principles incorporated in the agreement of 1921 were to be continued or abandoned. See p. 109ff.

²¹ The accounting period was later lengthened to two months, and in 1924 to three months.

There was to be, in other words, no pooling of the surpluses of a district for distribution to labor. The function of the surplus was rather to serve as a standard which would determine the size of the increment to be added to standard wages and profits in each district. Concretely, if at the end of an accounting period the joint accountants, after providing for standard wages, standard profits, and other production costs, found in a given district a surplus of \$100,000, the miners' share of \$83,000 was to be compared to the amount paid out in standard wages during the period. If the standard wages aggregated, say, \$830,000, then the miners in each pit in the district were to be entitled to a 10 per cent increase on their standard rates during the following month. If the surplus available for the miners turned out to be equal to 15 per cent of the amount paid out in standard wages the percentage increase on standard rates would be 15, and so on. And the increase was to apply to the wages paid at every pit in the district. If a given district showed a total profit,²² every colliery in that district was to make the ascertained addition to its wage rates irrespective of what the financial status of the colliery itself happened to be. An individual colliery might show a loss for a given accounting period, but if the district in which it happened to be located showed a net profit, it had no choice but to pay the addition to the standard rates.

The 1921 agreement also provided for minimum wage rates to be paid in each district. These were

²² The profit or loss for a district was to be determined by deducting the sum of the losses incurred by mines that showed a debit from the sum of the profits earned by mines showing a credit.

to be equal to the new standard wage rates plus 20 per cent, or roughly, 30 per cent more than the average rates paid in 1914. In the event that these wages gave to the lower-paid day workers an amount less than a "subsistence wage" a district board was to fix a rate which would bring the wage up to a "subsistence level." In other words, there were to be two minimum wages for the industry, one a minimum rate equal to 120 per cent of the standard rates newly established in each district; the other a minimum wage which was to be paid to those day workers whose total earnings under the given scale were insufficient to meet a "subsistence level." The former was specified in the agreement; the latter was to be fixed by the district boards.

With the signing of this complicated agreement, ended the struggle of 1921. So, too, ended the miners' hope for a national wages pool. The miners did, however, succeed in obtaining a national wage agreement. In so far as the new agreement was the result of negotiations between the Miners' Federation and the Mining Association, and in so far as it provided for a more or less uniform wage increase in all districts over the agreed standard rates, it embodied their demand for national bargaining. But it should be borne in mind that the standard rates fixed in each district were, with few exceptions, local in their nature—rates which, in other words, were in virtually all cases a crystallization of those prevailing in 1914. And these, in turn, were the outgrowth of earlier days when each district was in itself a distinct bargaining unit and rates were fixed by the geological and competitive conditions indigenous to each mining area.

VII. THE ERA OF NEW HOPE, 1922-1924

The depletion of stocks resulting from the three months' stoppage of 1921 stimulated the demand for coal in the areas which catered to domestic needs. The export districts, however, affected as they were by the general industrial depression on the Continent, experienced but little recovery. In some districts, particularly South Wales, unemployment became general and wages were soon down to the minimum. It was not until the spring of 1922, indeed, that revival came to the coal trade. The improvement during the first six months of the year was beyond expectation, and the unemployed in the coal industry who, in the preceding November had numbered 157,000, fell by May to 86,800. A 16 weeks' strike in the American coal fields had helped in part to bring a revival and provided an outlet for British coal not only to the markets formerly monopolized by the United States but also to the North American continent itself. British coal which in former years had hardly been known to American consumers became important in the ports of the United States and Canada, and over 4,000,000 tons found their way across the Atlantic. British exports, which in the two preceding years had averaged around 40,000,000 tons,²³ more than doubled in 1922. They aggregated over 87,000,000 tons,²⁴ an amount which, excepting the exports of 1913, was the largest in history.

Throughout the summer and autumn of 1922 the output of British coal continued to increase. Unemployment steadily declined, and the end of the year

²³ This figure includes coal shipped as bunkers.

²⁴ *Ibid.*

found the number of registered unemployed down to 56,600.²⁵ The year which had opened with 10.5 per cent of the registered miners out of work ended with but 4.6 per cent unemployed.

Within four years of the signing of the Armistice it looked as if the British coal trade was on its way toward resuming the position it had held in pre-war years. The difficulties of attaining regular production were being gradually overcome; the renewal of the wage agreement of 1921 to continue until 1924 assured freedom from labor difficulties; and the foreign demand for British coal had reached the proportions of 1913. If there still remained any doubts as to the recuperative ability of the British coal industry, they were destined to be swept aside by the events of 1923.

The occupation of the Ruhr in January, 1923, cut the production of German coal by over 70,000,000 tons. This meant not only that German consumers were deprived of their fuel supply but also that the 17,000,000 tons of reparation coal received in the preceding year by France, Italy and Belgium had to be in large part replaced from foreign sources. The natural source, of course, was Great Britain, and 102,800,000 tons of British coal, 37 per cent of the output for the year, valued at approximately £99,835,646,²⁶ left Great Britain for foreign ports. The British coal industry was truly prospering. The average loss of 2.77 shillings per ton of coal produced in 1921 was turned to a profit of 1.99 shillings, a return which, measured in terms of the pre-war price

²⁵ Royal Commission on the Coal Industry (1925), *Report*, Vol. III, p. 12.

²⁶ *Ibid.*, Minutes of Evidence, Sixteenth Day, p. 2.

level, was among the largest ever enjoyed by the British coal owners.²⁷

From a production valued at £260,000,000²⁸ the owners secured a net profit of £27,500,000 in 1923,²⁹ and this return reduced to its pre-war value, amounted to but £1,200,000 less than the average for the most profitable five years in Great Britain's coal history, namely, 1899 to 1903.

PROFITS IN THE COAL INDUSTRY, 1889-1925 *

Years	Tonnage raised (000,000 omitted)	Profits earned (in millions of pounds)	Profits earned adjusted to 1909-1913 level (in millions of pounds)
1889-1893 (average)	178	7.4	8.4
1894-1898 "	195	4.4	5.6
1899-1903 "	224	16.0	18.4
1904-1908 "	250	11.5	12.8
1909-1913 "	270	12.8	12.8
1914	266	22.7 (average)	11.2
1915	253		
1916	256		
1917	248		
1918	228		
1919	230		
1920	230	11.0 27.5 14.3	6.7 17.2 8.3
1921	163		
1922	250		
1923	276		
1924	267		
1925 (estimated)	248 †	2.1 † (Loss)	1.2 (Loss)

* *Ibid.*, Vol. III, p. 348.

† (1925 Tonnage and Profits are based on the first six months' results.)

Throughout 1923 and early 1924 the new prosperity continued. Production was maintained at a

²⁷ *Ibid.*, Vol. III, p. 348.

²⁸ *Ibid.*, p. 3.

²⁹ This figure is one of net profit and is arrived at by subtracting the losses from the total net income, *ibid.*, Vol. III, p. 349.

level well within the pre-war average. The number of men employed steadily increased, and May of the latter year saw 1 193 700 men at work in the pits, a number 11 per cent larger than in January, 1922. Under the profit-sharing scheme of the 1921 agreement, moreover, wages were rising.

The miners, however, were not satisfied with their share of the industry's proceeds. The large profits of the owners and the fact that certain classes of workers were receiving substantially less than the equivalent of their 1914 earnings³⁰ led them to demand a larger proportion of the industry's income. They pressed for a new agreement and on June 18, 1924, they succeeded not only in having the minimum wage rate raised from 120 to 133 per cent of the standard rates but also in securing an increase in their share of the industry's surplus earnings.³¹ Thus did the miners also capitalize the French expedition into the Ruhr.

For two and one-half years, with the exception of a few months in late 1921 and early 1922, the British coal industry had been blessed with increasing prosperity. Mines had been reopened and unemployment had virtually disappeared. Sales abroad had increased, and rising prices had brought large profits and higher wages. But while optimism

³⁰ *Court of Inquiry Concerning the Wage Position in the Coal Mining Industry, 1924, Report*, p. 15.

³¹ The miners secured an increase in their share of the surplus through two changes in the agreement. They succeeded first in having the standard profit decreased from 17 to 15 per cent of the amount paid out as standard wages. This change left a larger amount to be included as surplus after all agreed charges had been deducted from the gross profits. Second, they had their share of the surplus increased from 23 to 28 per cent.

reigned, many things were happening in the world of coal outside of Great Britain, things which were to have an effect upon the future of the British coal industry.

VIII. HIDDEN FORCES OF DESTRUCTION

During the post-war years, forces were developing in practically every one of the important coal-producing and fuel-consuming countries of the world which were destined to play havoc with the British coal trade. The development of new mining capacity, the growth in the use of substitutes such as fuel oil and lignite, the harnessing of hydraulic power, and revolutionary improvements in the steam engine, were all conspiring to threaten the future of British coal.

Prior to the Ruhr occupation, the reparation demands of the Allies and their desire to win back their former markets had forced the German coal owners to bring capacity to the highest and costs to the lowest possible points. Moreover, the mining of lignite, a substitute used largely for generating electricity, had been growing by leaps and bounds and had increased by 50 per cent since 1913, an addition which was in itself equivalent to over 10,000,000 tons of bituminous coal. France with her newly reconstructed mines had likewise increased her capacity. The production of coal in countries that had formerly been Great Britain's important customers had been growing at a rapid rate. India, South Africa, Spain, Holland, Chile, Japan, in order to avoid the disadvantages that they had experienced during and immediately after the war, had been developing their

coal fields to the point where they should no longer need as much British coal as formerly. France, Italy, Switzerland, Germany, Sweden, and other leading British customers had been developing hydroelectric power to an extent never equaled before. At the same time, fuel oil had become a vital factor in the shipping industry. The navies of the world had virtually all turned to fuel oil, and a goodly proportion of the merchant tonnage, which had formerly consisted almost entirely of coal burners, had been converted to oil burners. Whereas only 3 per cent of the ocean tonnage had used fuel oil and 89 per cent had used coal in 1914, the proportions within 10 years had changed to 69 and 28 per cent respectively. Finally, the technicians of the world had been increasing the efficiency of the steam engine by as much as 10 per cent.⁸²

Though these forces were here and there perceptible, the optimism bred of prosperity had largely concealed them from those who guided the fortunes of British coal. The depression which had overtaken other British industries in 1920, had been "lying in wait for the coal mining industry, but had been warded off by a series of accidents."⁸³ The stoppage of 1921, the American strike of 1922 and the occupation of the Ruhr had come to the rescue and had concealed the forces that were developing beneath the surface.

When the results of the last of these accidental factors had disappeared and the British coal industry

⁸² Royal Commission on the Coal Industry (1925), *Report*, Vol. I, p. 6.

⁸³ Gowers, E. H., *ibid.*, Minutes of Evidence, First Day, p. 5.

was no longer "helped by the temporary cessation of some normal coal supplies,"³⁴ it found itself confronted with difficulties which "could hardly have failed to come upon it"³⁵ three years earlier.

IX. THE AWAKENING

No sooner had the signatures on the new agreement of 1924 become dry than it became apparent that the current pace could no longer be maintained. The depression in the heavy industries at home had begun to affect the districts catering to domestic demand, and in these districts wages fell to the minimum. With the breaking of passive resistance in the Ruhr, German production was resumed again and foreign consumers, no longer dependent upon Britain, sought other sources of fuel. The price of export fuel which in April averaged 25 shillings a ton fell to 23s. 6d. in June and 21s. 7d. in December. The quantity of coal shipped abroad which in 1923 averaged over 8,000,000 tons per month hardly got above 6,500,000 after July. The unemployed who in April numbered but 2 per cent of the total in the industry increased steadily as the summer advanced and approximated 10.3 per cent in October. Within four months of the signing of the 1924 wage agreement every important district but one was on the minimum wage.³⁶

The forces which shattered the hopes of the coal trade continued to exert their influence with cumulative effect throughout the winter of 1924-25. The inland consumption of coal in 1924—compared with that in 1913—instead of expanding with the growth

³⁴ *Ibid.*

³⁵ *Ibid.*

³⁶ *Ibid.*, Vol. I, p. 147.

of population, actually decreased by some 4,000,000 tons. Exports also fell and approximated 81,000,000 tons for the year. In November, the coal owners, in view of the grave state of the industry, proposed to the Miners' Federation that a joint investigation be made of all aspects of the industry. It took considerable time for the miners to agree to such an investigation and by the time they had assented (March, 1925) production had fallen still further, and the percentage of unemployed had increased to 11.8. During the period September, 1924, to March, 1925, more than one-half of the collieries worked at a loss. By April, the proportion of losing collieries had increased to 64 per cent and by May to nearly 67 per cent.³⁷ In the latter month over 60 per cent of the coal mined in Great Britain was sold below cost. So acute was the situation that in the twelve months ending July 1 over 500 mines, one-sixth of the total, employing 110,400 men, were shut down and not reopened.³⁸

Conditions had reached such a pass by early summer of 1925 that it became generally evident that the coal industry could no longer carry on. In July, 315,000 miners were out of work and even the Eastern District, the only one of importance which had been operating at a profit, went onto the minimum wage. The joint committee of owners and miners were unable to come to any agreement as to a way out. In the eyes of the owners, conditions were due to the high cost of coal, and this "they

³⁷ Court of Inquiry Concerning the Coal Mining Industry Dispute, 1925, *Report*, p. 10. (Cmd. 2478.)

³⁸ *Ibid.*, p. 9.

attributed in large measure to a reduction of the working day from eight hours to seven hours under the Coal Mines Act of 1919." They "urged that if Parliament were to sanction a reversion to the eight hour day, the cost of production would be so reduced as to enable employment to be increased, consequent upon increased sales, and better terms could be offered to the workers on any revision of the existing Wages Agreement of 18th of June, 1924, than could be offered if the hours of labor were to remain as at present."³⁹ They "also attributed the prevailing depression to the operation of the existing Wages Agreement and stated that the industry could not continue to carry on under that Agreement. If there were to be no extension of working hours they represented that the Agreement would require to be revised much less favorably to the workers than if the hours were extended." The representatives of the Miners' Federation on the Joint Committee indicated however that "they were entirely opposed to any extension of the existing hours of labor and to any revision of the Wages Agreement which would give the workers less than their 1914 wages plus an addition corresponding to the increased cost of living."⁴⁰

X. THE IMPASSE

Having come to an impasse, the owners on June 30 gave formal notice to the Miners' Federation terminating the existing Wages Agreement as of July 31. On July 1 they submitted proposals for a new revised wage agreement. The significant fea-

³⁹ *Ibid.*, p. 5.

⁴⁰ *Ibid.*, p. 6.

tures of the proposed agreement were (1) the elimination of the guaranteed minimum basic wage,⁴¹ and (2) that 13 per cent of the proceeds of the industry be credited to profits "irrespective of what the resultant wages proved to be."

These proposals the miners refused to accept. They opposed the removal of the guaranteed minimum wage, which they insisted was already below the level of the cost of living. They were not in sympathy with the provision of guaranteed profits to the colliery owners irrespective of the rate of wages and they strenuously objected to an immediate reduction in wages. They concluded with a repetition of the "demand that the mine workers are entitled to a wage rate not less than is necessary to meet the increase in the cost of living" and they refused to meet further with the owners until the new proposals were withdrawn.

That a stoppage was imminent was evident to all. To find a possible way out the government appointed a commission "to inquire into the causes and circumstances of the dispute in the coal mining industry and to report thereon."⁴² This Commission, headed by the Right Honorable H. P. Macmillan, K. C., reported to the Minister of Labor on July 20, 1925, that the crisis in the industry was "to a large extent the creation of neither party to the dispute"; that the miners were justified in demanding a minimum wage; that there was considerable room for improving the efficiency of the industry as

⁴¹ The minimum wage for the low-paid day workers was to be retained.

⁴² Court of Inquiry Concerning the Coal Mining Industry Dispute, 1925, *Report*, p. 2. (Cmd. 2478.)

a whole; and that through collective action, coördination with other enterprises, and improvements in distribution, some aid to the economic position could be obtained.⁴³

The report of the Macmillan Board had little effect upon the demands of either the owners or the miners. It did, however, affect the later action of the government. The agreement between the miners and the owners terminating on August 1, preparations were made for a stoppage on that date. The miners, in anticipation of difficulty, had secured the promise of the transport and railway workers to refuse to handle coal during the stoppage. And they surrendered autonomy to the General Council of the Trades Union Congress, the executive standing body of organized British labor, endowed with wide powers of discretion to act in industrial disputes. On July 31 orders were issued from the miners' headquarters that all work should cease on the next day. From the headquarters of the railway and transport workers came orders that no coal cars should be moved; that no coal be loaded or unloaded at the docks; and that none be delivered over the road to commercial, industrial, or domestic consumers.⁴⁴

⁴³ *Ibid.*, pp. 18-20.

⁴⁴ Orders issued to railway and transport workers, July 29, 1925

RAILWAYS

1. Wagons containing coal must not be attached to any train after midnight on Friday, July 31st, and after this time wagons of coal must not be supplied to any industrial or commercial concerns or be put on the tip roads at docks for the coaling of ships.

2. All coal en route at midnight on Friday to be worked forward to the next siding suitable for storing it.

3. Any coal either in wagons or stock at a depot may be utilized at that depot for the purpose of coaling engines for pas-

XI. THE PURCHASED PEACE

On July 31, a few hours before the stoppage was to begin, Mr. Stanley Baldwin, the reigning Prime Minister, made a final attempt to avoid disaster. Partly as a result of the findings of the Macmillan Board, he offered to the coal industry, as a last resort, a nine-month subsidy and announced that a royal commission would be appointed thoroughly to investigate the whole subject of the production and distribution of coal. The Commission was to report its findings before May 1, 1926, the date that the subsidy was to come to an end. On these conditions the owners withdrew the lockout notices which they had posted in the different districts of the country.

The purpose of the subsidy was to enable the losing districts to pay existing wage rates and at the same time to show a profit balance. It was to give

senger and goods trains, but must not be moved from that depot to another.

DOCKS, WHARVES, ETC.

Coal Exports.

All Tippers and Trimmers will cease work at the end of the second shift on July 31st.

Coal Imports.

On no account may import coal be handled from July 31st.

General.

A general stoppage of men handling coal on other classes of tonnage on Friday midnight.

WATERWAYS AND DOCKS

All men on canals, waterways, etc., engaged in carrying coal will cease Friday midnight, with the exception of men who have coal en route, who will be allowed to take it to destination and tie up. SAFETY MEN FOR PUMPING, ETC., WILL BE PERMITTED TO WORK FOR SAFETY PURPOSES ONLY.

ROAD TRANSPORT

All men engaged in delivering coal to commercial and industrial concerns will cease Friday night, July 31st. Men delivering for domestic purposes will cease at 12 noon, Saturday, August 1st.

to the owners, by districts, the difference between the wages they had offered to the miners under the proposed new agreements and the wages they would have to pay should the terms of the 1924 Agreement be continued, plus a profit of about 36 cents a ton. The miners, therefore, suffered no wage reductions and the stoppage was avoided. It was estimated that the cost of the subsidy to the government would be approximately \$40,000,000. As a matter of fact, as will be seen later, the sum was nearer \$120,000,000.

The Royal Commission on the Coal Industry (1925), appointed in September, had four members, none of whom was affiliated with the coal trade.⁴⁵ The miners had asked that representatives of the owners and the workers be appointed to the Commission, but this request was refused. The Commission, after holding hearings for 33 days, issued its report in March, 1926.

Thus was "the revolution" for the time being averted. Coal production continued, and the miners, with the financial help of the government, retained the conditions of the Wage Agreement of 1924. It was hoped that the breathing spell afforded by the subsidy would have three results: (1) that in the interim of nine months the revival of domestic industry which had just begun would assume larger proportions and thus increase the internal demand for coal; (2) that foreign sales and export

⁴⁵ The Commission consisted of the following: Sir Herbet Samuel, a former home secretary; Sir William Beveridge, Director of the London School of Economics; Sir Herbert Lawrence, a banker; and Mr. Kenneth Lee, who is affiliated with the textile industry.

prices would be revived; and (3) that the findings of the Commission would provide a basis for an amicable agreement between owners and miners.

In all three respects, however, the government was to be disappointed. The following months were to see but little revival in the export trade and the increase in domestic consumption was to be insufficient to cause any material change in the condition of the coal industry. Nor were either the owners or the miners to undergo any change in their attitude toward each other. The owners were to continue to insist upon lower costs attained through lower labor charges and the miners were to insist upon "not a penny less of wages, not a minute more of work." At the end of the subsidy period, the world was to witness the greatest industrial struggle in British history.

CHAPTER IV

THE BELATED DEBACLE

The year 1926 will in all probability be recorded as one of the most crucial in English industrial history. It was the year that witnessed the "general strike," the first concerted attempt by British organized labor to tie up the essential industries of the nation. For nine days British industry was in chaos. Governmental control of certain essential commodities, armed food convoys, the endless number of volunteers recruited to maintain order, gave to the struggle a dramatic setting reminiscent of the days of the World War. The event is yet too fresh and passions too inflamed to admit of judgment as to the effect of this form of direct action upon industrial disputes in the future. Whether it is to be retained by labor as an effective instrument for economic bargaining, time alone can tell.

It was in 1926, also, that Britain experienced the longest and most disastrous stoppage in the history of coal mining. The immediate cause of this stoppage was the inability of the coal owners and miners to come to any agreement as to the application of the proposals submitted by the Royal Commission. The underlying cause, however, was the failure of the expectations held out for the coal trade during the subsidy period. The hope that the industrial

demand for coal would revive and that domestic prices would increase proved to be an illusion. The belief that exports would increase and thus alleviate the difficulties of the districts dependent on foreign purchasers turned out to have had but little justification.

I. ON THE VERGE OF BANKRUPTCY

During the nine months ending May 1, there was no significant increase in coal production. Although coal prices had actually fallen there had been no appreciable growth in the amount shipped abroad. The value of coal exported in the first quarter of the year was some £1,800,000 less than in the same period in 1925.

The purpose of the subsidy had been to bridge the gap between labor costs under the prevailing agreements and those proposed in the new terms submitted by the owners, and to assure to the latter a profit of about 36 cents a ton. As a matter of fact, however, the subsidy actually resulted in forcing coal prices to levels lower than had prevailed for several years. The subsidy had been granted on a district basis and it was the district result and not the financial status of the individual collieries that determined its size. That is to say, if, after expenditures and income were balanced, the net result for the total output of a given district showed a deficit, every colliery in that district was to be entitled to "the difference between the wages which it would have had to pay under the owners' offer and the wages it is [was] required to pay under the [subsidy] agreement with the Government." This was to be done irrespective of whether an individual col-

liery was making a profit or a loss. The fact that a given colliery was making a profit did not preclude it from receiving the subsidy.¹ Consequently a profitable colliery located in a losing district could under the subsidy afford to cut its prices by an amount equal to the subsidy and still earn profits as large as formerly. And that was what in fact did happen. Having been assured of a profit, many a colliery used the subsidy as a means of cutting prices and getting business. The subsidy, in last analysis, not only made available to some collieries a profit per ton "substantially higher than was usual in the industry before the war";² it also gave the consumer his coal at a cheaper price. This was particularly true of export coal, which averaged about two shillings (approximately 50 cents) a ton less in March and April of 1926 than in the preceding summer.

EXPORTS OF COAL AND VALUE PER TON, JANUARY, 1925, TO
APRIL, 1926 *

Month 1925	Exports (Including Bunkers) (Tons)	Average Export Price F. O. B. (per ton)		
		£	s.	d.
January	5,807,000	1	1	4
February	5,738,000	1	0	10
March	5,811,000	1	0	9
April	5,695,000	1	1	3
May	6,032,000	1	0	6
June	5,027,000	1	0	2
July	5,870,000	1	0	1
August	4,487,000	0	19	4
September	5,256,000	0	18	9
October	5,792,000	0	18	5
November	5,662,000	0	18	6
December	6,078,000	0	18	6

* Data for 1925 from "Commercial History and Review of 1925," *The Economist*, February 13, 1926, p. 50.

¹ Royal Commission on the Coal Industry (1925), *Minutes of Evidence*, Twelfth Day, p. 361.

² *Ibid.*, Report, Vol. I, p. 223.

EXPORTS OF COAL AND VALUE PER TON, JANUARY, 1925, TO
APRIL, 1926 * (continued)

Month 1926	Exports (Including Bunkers) (Tons)	Average Export Price F.O.B. (per ton)		
		£	s.	d.
January	5,428,000 ^a	0	18	5 ^a
February	5,646,000 ^b	0	18	6 ^b
March	6,080,000 ^c	0	17	9 ^c
April	5,583,000 ^d	0	17	6 ^d

^a *Colliery Guardian*, February 19, 1926, p. 452.

^b *Ibid.*, March 19, 1926, p. 679.

^c *Ibid.*, April 16, 1926, p. 923.

^d *Ibid.*, May 28, 1926, p. 1171.

As a result of the price-cutting policy, profits—other than those secured by means of the subsidy—disappeared almost entirely during the last quarter of 1925. Over 73 per cent of the output was in these months raised at a loss—a loss which in some districts ran as high as 3.2 shillings (about 80 cents) per ton of coal mined.³ The subsidy, originally estimated at \$40,000,000, had actually cost the Government \$120,000,000.

It was this state of affairs which made it impossible to adjust the relationship of workers and miners in May of 1926. The problem on the eve of the coal stoppage was how immediately to cut the cost of coal sufficiently to enable the industry to become self-supporting. When the subsidy came to an end on May 1, the only available avenue of escape, in the opinion of the coal owners, was by way of wage cuts or longer hours. These alone could make it possible for the industry to cope with falling coal prices. Such measures, they felt, would

³ In the exporting districts conditions were particularly bad. "In South Wales and Scotland more than 80 per cent of coal was raised at a loss of 1 shilling (24 cents) or more; in Durham 90 per cent; in Northumberland 99 per cent." Royal Commission on the Coal Industry (1925), *Report*, Vol. I, p. 226.

also eventually benefit the miner. They would furnish an opportunity for larger employment and so yield him a net income greater than that which he could otherwise earn during the prevailing depression. In the eyes of the miner, however, lower costs and lower prices promised neither a greater demand for coal nor more employment. Lower coal prices had not appreciably bettered his condition during the preceding year, and he saw little reason to believe that they would do so in the future.

The Coal Commission in its attempt to find a way out of the impasse had called upon both sides for a remedy. There were two problems that had to be solved. One was the immediate position of the industry; the other was "the question of its proper organization to fit the conditions of the future."⁴ The mine owners in their proposals to the Commission had given their attention to the former, and had emphasized the fact "that the really important matter is to lift the industry out of its plight." The miners had insisted "that the plight of the industry is due to its defects of organization, and that what is important is to cure those."⁵

The solution of the coal owners centered in their recommendation that the miners be compelled to work eight hours a day instead of seven. The increased output and lower overhead resulting from such action would, in their opinion, decrease costs considerably. They suggested, also, that in order to make possible lower freight rates for coal shipped from the mines the wages of railway workers be decreased.

⁴ *Ibid.*, p. 224.

⁵ *Ibid.*, p. 224.

The miners insisted that there was no relief for the coal industry outside of a thorough reorganization of the mining and distribution of coal. They proposed that the government take over not only the coal in the ground but also the mines and their equipment. With nationalization they associated the development of the electrical industry and the building up of a by-product industry which would take from the coal the many valuable by-products which now go to waste. The electrical industry and the by-product industry, however, were to remain in private hands under the supervision of a government commission.⁶

The miners fully recognized that the realization of their proposals would involve a considerable period of time and that their solution would not alleviate the immediate difficulty. As to just how the problems of the moment were to be met, they "were willing to entertain consideration."

II. THE REPORT OF THE ROYAL COMMISSION

The Commission in its report devoted most of its attention to the permanent aspects of the coal problem. It found large changes to be necessary and large progress to be possible. Its findings emphasized:

(1) That many of the mines were poorly planned and poorly equipped. "Very many of the collieries are on too small a scale to be good units of production. A number are defective in equipment and some in management."⁷

⁶ For a full discussion of the Miners' Plan, see pp. 324-7.

⁷ Royal Commission on the Coal Industry (1925), *Report*, Vol. I, p. 232.

(2) That the methods of utilizing coal were unscientific. It had found that "four-fifths of the coal consumed in the country is burnt in a raw state; oil and valuable by-products are wasted and the atmosphere is polluted."⁸

(3) That research in the methods both of mining and of using coal was inadequate.

(4) That the selling organization and the methods of transport were too costly and did "not secure the best financial results for the collieries, and therefore for the miners employed in them"; and

(5) That "the organization of the industry on its labor side calls for numerous improvements."⁹

Nationalization of the mining industry, as proposed by the miners, did not, in the opinion of the Royal Commission, meet the needs of the situation. It did not seem workable, nor did it offer a clear social or economic gain.¹⁰ Nationalization offered no prospect of success or clear gain. In it were perceived to be grave economic dangers. It offered "no advantages which cannot be attained as readily, or more readily in other ways." The industry ought therefore to continue under private enterprise.

If the industry was to function successfully under private enterprise, however, it could not go on with

⁸ *Ibid.*, p. 232.

⁹ *Ibid.*, p. 232.

¹⁰ Many reasons were set forth to justify this conclusion. (1) The industry did not appear to lend itself to national ownership; (2) state purchase of the mines would interfere with the progressive tendencies toward integration with other industries; (3) the financial responsibilities of the Treasury would be too large; (4) the export trade would involve the state in international complications; (5) labor difficulties and the prevailing depression would still remain to be solved. *Ibid.*, Chapter VI, "Nationalization of Mines."

its organization of the past. It would have to be radically reorganized in many respects. Like the Sankey Commission of 1919, the Royal Commission of 1925 recommended, first of all, that "the error which was made in times past, in allowing the ownership of the coal to fall into private hands, should be retrieved."¹¹ Though it had pronounced against the nationalization of the mines themselves, the Commission came out flatly for the acquisition of the coal resources by the state.

After the coal resources had been purchased, the way to prosperity appeared to be "along three chief lines of advance: through greater application of science to the mining and using of coal, through larger units for production and distribution, through fuller partnership between employers and employed."¹² It was recommended, therefore, that many of the small units of production should be amalgamated. Investigation had shown that the greatest efficiency and lowest costs existed in the larger undertakings. But amalgamations should be voluntary, for "any general measure of compulsory amalgamation would be mischievous."¹³ Where desirable amalgamations were prevented by the dissent of some of the owners or by unreasonable claims, legislation to provide for a compulsory transfer of interests should be enacted. Moreover, a means for the promotion of desirable amalgamation would be found in the state ownership of coal resources when new leases were granted or old ones renewed.¹⁴

¹¹ *Ibid.*, p. 233.

¹² *Ibid.*, p. 237.

¹³ *Ibid.*, p. 233.

¹⁴ *Ibid.*, p. 233.

The Commission recommended, too, that the distribution of coal should be reorganized by the formation of large coöperative selling agencies, and that local government authorities should be allowed to engage in the retail sale of coal.¹⁵ Other suggestions related to the promotion of a closer connection of mining with allied industries such as electricity and the manufacture of by-products, and the development of research into new methods of mining and using coal.

Finally, there was a need for improved labor relations. These, it was felt, could be bettered by means of amendments "in the method of ascertaining the proceeds of the industry for fixing wages";¹⁶ the extension of multiple shifts; the establishment of joint pit committees; the revision of methods for paying day men "so as to give them a direct interest in output"; the introduction of a family allowance system; obligatory profit sharing schemes; proper housing; pit-head baths and annual holidays with pay.

To effect all of the suggested measures of improvement would require a long period of time. But the industry had to be kept going in the interim. For nine months a portion of the industry had been artificially kept alive by the subsidy which had

¹⁵ *Ibid.*, p. 234.

¹⁶ *Ibid.*, p. 234. The miners had been demanding that the profits of the by-product works connected with the collieries be considered as part of the income of the coal industry. They had claimed, too, that the sale of coal to firms associated with collieries—that is, exporters, coking plants, and the like—was sometimes made at prices below those prevailing in the market. In this way the income of the collieries was decreased and consequently a smaller balance remained for distribution in wages and profits. The colliery owners, however, secured their profits in the form of higher earnings in the associated industries.

given to the owners an average profit of 1.56 shillings (approximately 36 cents) per ton.

To avoid a collapse of the industry, the Commission saw only two available alternatives. The first was the continuance of the subsidy during the period of reorganization. The second was the immediate cutting of costs either by an increase in the length of the working day or by the lowering of wages.

The Commission emphatically stated that the subsidy should not be continued. In its view it was wrong in principle. "If in any industry there is a labor dispute on wages, and a gap exists between the amounts that the employers are willing to pay and the amounts that the workers are willing to accept, or if demand declines and oversupply leads to low prices and production at a loss, it is wrong that the gap should be filled or the loss made good by recourse to the National Exchequer. It is indefensible that the people engaged in other industries should be taxed in order to provide profits for the employers or to maintain the wages of the workers, in the particular industry affected—their own profits, and their own wages, being often no better, and sometimes worse. If recourse is had to this means in one crisis in one trade—unless it is definitely ruled now to be inadmissible as a policy—there will inevitably be pressure to resort to it in another crisis or in another trade. The result would be destructive to the national finances."¹⁷ The suggestion that a temporary subsidy be given to collieries "on the margin of profitability," the Commission found both inadvisable and impracticable.

Of the two possible methods of reducing costs, the

¹⁷ *Ibid.*, p. 223.

Commission favored the revision of wages as the more desirable expedient. The longer working day, to be sure, held the promise of greater output at a lower unit cost. But that, in turn, meant that "either prices would have to be lowered further to find a market" for the additional output, "or that perhaps 130,000 men would be added to the numbers unemployed." It meant also that the working day would be longer in Great Britain than in any important mining area of Europe, except Upper Silesia. Further, "it would be offset in part by increased absenteeism and possibly by slackness of work. It might lead to extension of hours in other countries. It involves a lowering of the standard of life and leisure which would tend to become permanent."¹⁸ The Commission expressed the hope that the miners would not prefer an extension of hours to lower wages.

The impasse, it was felt, could best be overcome by a revision of the minimum wage rates. The minimum wage of 1924 (about 30 per cent above the 1914 level) would have to be given up. Just how far this minimum was to be cut would be determined by the conditions peculiar to each district. It must necessarily vary from district to district. But the Commission specifically stated that the minimum should be finally arrived at by national negotiations between owners and miners.¹⁹ Though such a revision would bring real wages below their pre-war level for a large proportion of the miners, it was a

¹⁸ *Ibid.*, p. 227.

¹⁹ "But we are strongly of the opinion that national wage agreements should continue. Such agreements are entered into in all the other British industries of importance." *Ibid.*, p. 236.

necessity from which other laborers were also suffering. As compared with wages in industries exposed to world competition or as compared with pre-war wages, a decline from the prevailing minimum was amply justified.²⁰

An immediate reduction of working costs effected through a revision of the "minimum percentage addition to standard rates of wages" was essential to save the coal industry from disaster. Such revision was not, in the opinion of the Royal Commission, to be a "permanent lowering of wage standards, but a temporary sacrifice by the men in the industry."²¹ The miner, however, was not to be asked to make this temporary sacrifice until "it shall be definitely agreed between them [those engaged in the industry] that all practicable means for improving its organization and increasing its efficiency should be adopted, as speedily as the circumstances in each case should allow."²² The wage cut, in other words, was to be conditioned upon some agreement as to reorganization. Otherwise there would be relatively little assurance against a new crisis in the future.

A revision of wages did not promise to save all of the existing mines from extinction. In certain districts no wage cuts within reason would be "suf-

²⁰ *Ibid.*, p. 229.

²¹ *Ibid.*, p. 229. If at a later date prices should rise and give to the industry "proceeds more than sufficient to pay the new minimum in any district, higher wages will [would] be paid automatically under the wages ascertainment."

"If and when improvements in the organization of the industry lead [led] to a reduction of costs per ton, the same result will [would] follow." *Ibid.*, p. 228.

²² *Ibid.*, p. 229.

ficient even to balance proceeds and costs as they were in the last quarter of 1925.”²³ It was inevitable therefore that some mines would have to be closed. These, the Commission believed, would probably be the older mines “whose life would be nearing its end in any case. They would be those that usually provide the worst housing accommodation for the workers, and present the greatest difficulty in securing a remedy, on account of the short period of working still in prospect.”²⁴ Such mines could be shut down without any great national loss, for the industry, it was felt, was too large for the required demand.²⁵

The transfer of labor from abandoned mines presented a serious problem. Emigration would be impracticable, and housing and working conditions in the newer fields would make difficult any large shift in the labor supply. It was therefore suggested that, “should the occasion arise after the discontinuance of the subsidy, the government should be ready to take all practicable measures for the assistance of any labor that may [might] be displaced, or for facilitating its transfer, and should provide such funds as might be required for those purposes.”²⁶

These, in brief, were the findings of the Royal Commission on the Coal Industry (1925) as reported on the 10th of March, 1926. The Report was hailed by many as a “wise and moderate document, which was to be the foundation of the future prosperity of the industry.” Shortly afterwards the Prime Min-

²³ *Ibid.*, p. 228.

²⁴ *Ibid.*, p. 230.

²⁵ *Ibid.*, p. 230.

²⁶ *Ibid.*, p. 231.

ister announced that although "the conclusions reached by the Commission do not in all respects accord with the views held by the government," and although "some of the recommendations contain certain proposals to which, taken by themselves, the government are known to be opposed."²⁷ the report would be accepted in its entirety. The government stood prepared, furthermore, to pass such legislation as might be necessary to give effect to the recommendations, provided that the colliery owners and the miners were prepared to do the same.²⁸ He stated further that although the subsidy could not be continued in its original form, he would, if the two parties accepted the report by May 1, consider

²⁷ Reference here was in all probability to the state purchase of royalties.

²⁸ The following recommendations would have required government action: (1) Further assistance by the government in the investigation of processes of low temperature carbonization. (2) Establishment of a National Fuel and Power Council. (3) Provision for research to be largely extended by the industry with the support of the state. (4) The promotion of desirable amalgamations by provision for compulsory transfer of interests under existing leases where desirable amalgamations are prevented by the dissent of some of the parties or their unreasonable claims. (5) State purchase of royalties. (6) Royalties to contribute to the Welfare Fund. (7) The granting of powers for local authorities to engage in the retail sale of coal. (8) A Standing Joint Committee of the Ministry of Transport and Mines Department to promote measures to secure the adoption of larger mineral wagons on the railways, and a greater concentration of ownership of wagons. (9) Profit-sharing schemes providing for the distribution to the workmen of shares in the colliery undertakings to be made obligatory by statute. (10) The government to make such modification in the law governing hours as the owners and men may agree. (11) The government to facilitate the transfer of displaced labour and to provide funds for the purpose. (12) Consideration to be given to the regulations governing the qualifications of mine managers. (13) Pit-head baths to be compulsory and to be financed from the Welfare Fund. (14) Joint pit committees to be established generally.

the granting of some temporary help to the poorer districts.

The solution of the problem now hinged upon the decisions of the owners and the miners. The next step was a conference between the two contending parties. Their attitude toward the report as shown at this conference would determine in large part the events of the future. Accordingly, representatives of the Mining Association and the Miners' Federation met on the 31st of March to discuss the proposals of the Royal Commission.

III. FRUITLESS NEGOTIATIONS

The colliery owners, regretting that the Commission had been unable at several points to agree with their views, declared themselves "prepared to adopt measures distasteful" to them "in an endeavor to secure a settlement by agreement on the lines of the Report."²⁹ Although they regarded some of the proposals as unsound in principle they nevertheless most graciously agreed to "conform to such measures as Parliament may enact."³⁰ As to measures which called for action on their part, they stated their "sincere desire to do their utmost to give effect to the objects aimed at in the recommendations,"³¹ and they agreed, in vague and general terms, to be sure, to the three chief lines of advance proposed by the Commission.³²

²⁹ *Colliery Guardian*, April 9, 1926, p. 848.

³⁰ *Ibid.*, p. 848.

³¹ *Ibid.*, p. 848.

³² Regarding the structure of the industry the owners were prepared "to do everything in their power to improve the organization and increase the efficiency of the industry." (*Colliery Guardian*, April 9, 1926, p. 848.) They accepted the view

Thus did the coal owners commit themselves to the acceptance of various recommendations of the Royal Commission. The precise method of application they did not, however, elaborate. Nor were they, in fact, making any sacrifices in accepting them. The proposals in question were, after all, of a rather general nature, and involved no large expenditure of effort or any sacrifice of principle. The owners' reply to the Report of the Royal Commission as submitted in joint conference with the miners, was in final analysis a statement of attitude. It failed to disclose any suggestion as to just where wages should be fixed, nor did it present their intentions relative to the legislation proposed. Indeed, with but few exceptions it left matters pretty much where they had stood.

The question of greatest importance to the miners at this stage of negotiations was: What wages do the owners propose should be paid at the beginning of May? To this question the owners gave no definite answer. They only intimated that there would

expressed by the Commission as to the advisability of associating mining with other industries; they approved of research.

Distribution, they felt, should also be given consideration, for they agreed with the Commission's assertion that "any means which are practicable for obtaining the best prices possible for coal in the general interests should be adopted." (*Ibid.*)

In their relations with labor they were prepared to consider with their workmen the devising of machinery to overcome the objections presented by the miners to the prevailing methods of wage ascertainment. (See p. 74, footnote 16.)

They were "prepared to agree that pit committees shall be set up voluntarily at each pit" (*Colliery Guardian*, April 9, 1926, p. 849); they were "cordially in agreement as to the desirability of associating the workers as closely as possible with the success of the individual undertaking in which they are employed"; and they favored "the provision of the best housing conditions that are practicable." (*Ibid.*)

be heavy reductions.³³ Consequently negotiations were broken off.

It is questionable, however, whether any definite wage proposal by the owners would have averted a break in negotiations. The miners were determined that the acceptance of reorganization should be a prerequisite to the discussion of wages,³⁴ and that the national agreement with a uniform minimum addition to basic wages should be retained. They looked upon the refusal of the owners to consider a national minimum percentage as "an insurmountable obstacle to an amicable settlement."³⁵ Moreover, they felt that their wages were already inadequate and that they could not be expected to consent to any further decreases.³⁶

The miners, in short, were unwilling to take a wage cut, and this in spite of the fact that it was the opinion of those who had surveyed the industry

³³ *Colliery Guardian*, April 9, 1926, p. 849.

³⁴ *Ibid.*, April 16, 1926, p. 907.

³⁵ *Ibid.*, April 9, 1926, p. 849.

³⁶ In a reply to the owners, the Miners' Federation asked for specific plans for reorganizing the industry. They suggested that in their opinion flexibility of wage rates was already "too much in evidence" and said that they interpreted the demand for district negotiations of the minimum percentages as an attempt to break up the national organization of the workers and leave each district to its own ability to defend itself. They expressed the opinion that the redistribution of hours was impracticable, and stated their belief that no amalgamations of collieries would take place unless made compulsory by the government. They held further that a closer connection was necessary between mining and allied industries, but that the financial results of the ancillary industries should be combined with coal mining so that the enhanced values given to the latter "may enter into the computation for the determining of the miners' wages." And they particularly emphasized the fact that "no settlement will be acceptable which does not provide at least a wage sufficient to enable the miners to secure a decent standard of living." *Colliery Guardian*, April 16, 1926, pp. 907-8.

that a reduction was essential to avoid a collapse.³⁷ At a delegate conference of its membership they had unanimously resolved:

(a) "That no assent be given to any proposal for increasing the length of the working day";

(b) "That the principle of a national wage agreement with a national minimum percentage be firmly adhered to";

(c) "That inasmuch as wages are already too low, we cannot assent to any proposals for reducing wages."

That they realized that such an attitude might lead to a stoppage was evident from their previous negotiations with the General Council of the Trades Union Congress. Even before the completion of the Commission's report they had prevailed upon the General Council sub-committee to reaffirm:

The attitude of the Trade Union Movement as expressed in July last, namely, that it would stand firmly and unitedly against any attempt to degrade further the standard of life in the coal fields. There was to be no reduction of wages, no increase in working hours, and no interferences with the principle of national agreements.³⁸

Later, before meeting with the owners, they had further assured themselves of the support of the whole trade union movement, if circumstances should make it necessary for them to strike.

A second conference of owners and miners two weeks later proved, like its predecessors, abortive.

³⁷ One district had advocated turning down the report in its entirety.

³⁸ Manifesto of the Industrial Committee of the General Council of the Trades Union Congress, February 26, 1926.

On adjourning, the owners stated that their district organizations would "proceed to invite the work men's organizations in the districts"³⁹ to consider with them the amounts of minimum percentages on basic rates and of subsistence wages which may form the basis on which work can be continued when the government subvention comes to an end on April 30."⁴⁰

This decision both the miners and the Industrial Committee of the Trades Union Council interpreted as a definite abandonment by the owners of the national wage agreement. The Council accordingly reiterated its previous promise to render the miners "the fullest support in resisting the degradation of their standard of life and in obtaining an equitable settlement of the case with regard to wages, hours, and national agreements."⁴¹

IV. THE THREATENED LOCKOUT

It was evident that negotiations were at an end, and that, unless the government intervened, the work of the Royal Commission would fail to avoid a crisis on May 1. The Prime Minister was informed of the status of the negotiations; the owners posted notices to the effect that the existing terms and conditions of employment would terminate on May 1; and the miners started preparations for a stoppage. In anticipation of a strike, the miners had already secured the unanimous decision of the Council of the International Transport Workers' Federation to do everything possible to support the British miners

³⁹ The Miners' Federation is a federation of district unions.

⁴⁰ *Colliery Guardian*, April 16, 1926, p. 910.

⁴¹ *Ibid.*, p. 910.

should a conflict actually break out. Through a Committee of the International Miners' Federation they secured from the miners on the Continent the promise of "full support . . . in the fight against longer hours, wage reductions, and the breaking of national agreements," and a declaration to the effect that action would be taken "to prevent coal from being exported to Great Britain in the event of a stoppage."⁴²

Further attempts at negotiation on April 22 showed that the deadlock still prevailed. The owners continued to insist that minimum wage negotiations could be conducted only in the districts. The district owners' associations had, indeed, already drawn up proposals containing suggested new minima. In every district but one the proposed decrease in the minimum percentage addition to basic rates would have brought wages down below the 1921 level. The export districts would have been particularly hard hit.⁴³ Even these reduced minimum

⁴² Resolution of the International Committee of the International Miners' Federation as reported in *Colliery Guardian*, April 23, 1926, p. 969.

⁴³ In one district, Durham, the wages offered meant a reduction of 27 per cent below current gross wages; in South Wales, 26 per cent; in Northumberland, 25 per cent. In terms of the worker's actual current earnings the suggested wage cuts meant a reduction in the daily wages of the Durham miner from 9s. 11d. (about \$2.40) to about \$1.90; of the worker in South Wales from 10 s. 8 d. (about \$2.60) to about \$2.20; of the miner in Northumberland from 9 s. 4 d. (about \$2.35) to about \$1.70. See *Colliery Guardian*, April 30, 1926, p. 1028.

If one takes the average earnings for these same districts for September, 1923, when, due to the Ruhr invasion, prosperity reigned, one finds that in Durham the average gross earnings were 10 s. 6 d. or about \$2.52 a day; in South Wales 10 s. 3 d. or about \$2.47 a day; in Northumberland 10 s. 10 d. or about \$2.60 a day. These figures are a weighted average of all workers, including boys, who, in Durham, comprised 22.9 per cent of the total

rates, the owners insisted, would, with prevailing prices, still leave a considerable proportion of the tonnage to be raised at an actual loss.⁴⁴ Meanwhile the miners remained adamant and adhered to their demands for a national agreement and a national minimum.

V. GOVERNMENT INTERVENTION

After this third conference the Industrial Committee of the Trades Union Congress made clear to the Prime Minister that the time had arrived when control of the situation should be transferred to his hands. They looked upon the owners' demands as the first move in a general onslaught upon wages. The owners indeed had emphasized at several points in their testimony before the Royal Commission the need for a readjustment of the wage scale in the "sheltered trades."⁴⁵ They had specifically asked that wages in the railway industry be cut, and the

employed; in South Wales, 19 per cent of the total; in Northumberland 20.9 per cent. Royal Commission on the Coal Industry (1925), *Report*, Vol. III, pp. 302 ff.

To this wage must be added certain allowances that are made in some districts in the form of free or cheap coal, and free or cheap rents. In Northumberland, house rent is free. The owners estimated the value of these allowances at about 1 shilling (24 cents) per week per person employed in the British mines for the year 1913. Lee, W. A., *ibid.*, Minutes of Evidence, Twelfth Day, p. 334.

⁴⁴ The situation was made even more difficult by the inclusion of a new factor to be considered in each district; namely, that the percentage addition to piece workers' rates made when hours were reduced from 8 to 7 in 1919, would also have to be revised and reduced in some districts. That is to say, not only would the minima have to be revised but in some districts the basic wage rates to which the minima are added would also have to be lowered.

⁴⁵ A sheltered trade is one which does not have to meet foreign competition. Among them the most important are the building trades and transportation.

railway workers comprised one of the most important elements in the Trades Union Council.

Seven weeks had passed since the Royal Commission's Report had been issued. Ten days remained in which to effect the conciliation of opposing interests. The first eight months of the coal subsidy had cost the government nearly \$95,000,000 and had turned a Treasury surplus of nearly \$25,000,000 for the fiscal year ended April 1, 1926, into a deficit of \$70,000,000. A stoppage of the coal industry would involve not only a further financial drain upon the Exchequer but also a loss of receipts. It was incumbent upon the Prime Minister to take a hand in the negotiations.

On April 23, Mr. Baldwin invited the contending parties to meet with him, with a view to the resumption of negotiations.⁴⁰ In deference to Mr. Baldwin's appeal both sides appointed small negotiating subcommittees which kept in constant touch with him. He succeeded, on April 28—two days before the expiration of the subsidy—in getting the owners to withdraw their demand for district negotiations and to discuss a national minimum. The owners pointed out, however, that any national minimum would necessarily be low. It would have to be low

⁴⁰ He asked both sides to "get down to the hard facts" of the situation and stated that a long time settlement—five years, at any rate—was essential to the welfare of the country. Industrial conditions were steadily improving. Unemployment, for the first time since 1920, was down to below 1,000,000, and the cost of living was the lowest since 1920. He hoped "most sincerely" that nothing would be allowed to interfere with the industrial revival that had begun, and "for the sake of the whole country as well as of the coal industry itself, that every effort would be made to reach a settlement which would last for a number of years." *Colliery Guardian*, April 30, 1926, p. 1027.

enough indeed to make it possible for the export districts to carry on. At the same time the owners continued to press for an extension of hours and directed much effort to demonstrating to the miners that an acceptance of longer hours "would enable 'miserable' wages to be mitigated."

The miners continued definitely to hold to their earlier position. "There must be no reduction of wages and no increase of working hours, and there must be a real national agreement embodying a national minimum percentage."⁴⁷ They reiterated further the recommendation of the Royal Commission that before any sacrifices were asked from those engaged in the industry it should be definitely agreed between them that "all practicable means for improving the organization and efficiency of the industry should be adopted as speedily as the circumstances allowed." Though reorganization was the most vital factor to be considered, it had been obscured, they insisted, by the isolation and prominence given by the owners to the question of wages.

April 29 arrived. Less than 48 hours remained before the lockout notices were to take effect. But as yet no definite statement had been submitted by the owners as to what the national minimum should be. They were "awaiting directions from their district associations."

Recognizing that a struggle was imminent, the General Council of the Trades Union Council called a conference of the executives of all of its affiliated unions to hear the miners' case. At this meeting, on April 29, the previous decision of the General

⁴⁷ *Daily Herald*, London, April 29, 1926, p. 1.

Council was endorsed and the withdrawal of lockout notices was called for.

The next day the owners presented their terms. They proposed to the Prime Minister a uniform reduction of the national minimum addition to standard rates from $33\frac{1}{3}$ per cent (the 1924 level) to 20 per cent (the 1921 level), and an increase in the working day from seven hours to eight, until December, 1929.⁴⁸ This offer was submitted by the Prime Minister to the miners eleven hours before the lockout was to begin, and with it he reaffirmed his willingness "to give effect to such of the proposals in the Report as we [the government] believe will be of benefit to the industry."⁴⁹ In any event the government proposed to arrange an authoritative inquiry into the question of selling organizations and amalgamations. Later in the afternoon the Premier was informed by both the miners and the Trades Union Congress Committee that negotiations would go no further unless he had the lockout notices withdrawn. This the Prime Minister stated he was unable to do.

At six p. m. on the 30th of April the miners' officials, after consulting their delegate conference, rejected the owners' proposals and submitted, as an alternative basis of negotiation and settlement, a statement of proposals drawn up by the Trades Union Congress. These related primarily to the reorganization of the industry. The government then offered to get the lockout notices withdrawn if

⁴⁸ In 1929 a Royal Commission was to be appointed to investigate and report whether the hours should be revised.

⁴⁹ *Daily Herald*, London, May 1, 1926.

the miners would consider the Royal Commission's Report in its entirety. But this was interpreted as implying an advance committal to the acceptance of a wage reduction, and the miners refused.⁵⁰ In reply to the direct question whether they would accept a departure from the 1924 minimum, the miners said that "they are not prepared to accept a reduction in wages as a preliminary to the reorganization of the industry." They reiterated, however, that they were "prepared to give full consideration to all the difficulties connected with the industry when the schemes for such reorganization will have been *initiated* by the government."⁵¹

It was because of the ambiguity of the word "initiated" that negotiations were finally broken off. It was clear that the miners were determined not to accept a wage reduction "as a preliminary to reorganization." But it was not clear whether they would take a reduction after reorganization was accepted in principle.⁵² To the government the word "initiated" meant refusal to accept any reduction in the interim period before reorganization could bring results.⁵³ This attitude, the government felt, precluded any possibility of arriving at an understanding, and at 11:15 on April 30, it was officially announced that all negotiations had been broken off.

⁵⁰ *Ibid.*, May 1.

⁵¹ *Ibid.*, May 1, 1926. Italics are authors'.

⁵² On the following day Herbert Smith, the miners' president, told the conference of Trades Union Executives that he "was prepared to examine the Report . . . and stand by the result as finally reached."

⁵³ Statement of Sir Arthur Steel-Maitland, Minister of Labor, as published in the press of May 1.

CHAPTER V

THE GREAT STRIKE

The Report of the Royal Commission, although it had revealed a wealth of information relative to the physical and financial constitution of the British coal industry, failed to avert a struggle. And it failed primarily because it had made no recommendation as to ways and means for putting its suggested reforms into effect. The Commission could not but have been aware that both sides would be opposed to some of its proposals. It knew, too, that the reigning ministry would look askance upon some of its suggestions. Yet it left the question of administrative machinery almost untouched. It asked the miners to accept a wage cut in order that the industry might survive during the period of reorganization. Yet it suggested no instrumentalities for carrying out and enforcing reorganization. When the crucial moment arrived emphasis was shifted from reorganization, which was essential to the continued existence of the industry, to the question of wage reductions. In other words, both the owners and the government took refuge, as it were, in the wage question. Until the miners should accept a wage cut, nothing would be done. Had the Royal Commission suggested more definitely not only the needed changes, but also the machinery for their inauguration, events

might have taken a different turn. As it was, each side had an opportunity to interpret the report as it saw fit.

I. THE STOPPAGE

When the stoppage occurred, the miners turned their case over to the Trades Union Council. From then on the conduct of the dispute was to remain in the hands of that body. On May 1 the conference of Trades Union Executives by an almost unanimous vote declared for a general stoppage of industry beginning at midnight, May 3, "if in the meantime a satisfactory settlement of the mining dispute had not been reached." Though the miners had known that they would receive the general support of the Trade Unions, the calling of a general strike came to them as a surprise. They had been told on several occasions that the General Council would act in this emergency as they did in the emergency of July, 1925: ¹ namely, that the railway men and dock workers would be ordered to refuse to handle coal. The decision to call a general strike, however, had been made a few days previously, without consulting the miners, who learned nothing of it until late in the evening of April 30.²

The general strike call provided for the cessation of work in the transport, iron and steel, building, electricity and gas, and printing trades. Every branch of railway, water, air, and road transport was to be shut down. The same was true of the metal

¹ See p. 62.

² *New Leader*, London, June 4, 1926, p. 9.

It should be borne in mind that a general strike to aid the coal miners had been the subject of much discussion in labor circles for many months.

and heavy chemical sections of the steel trade and of the printing industry. The embargo included, too, the entire press and made no exception of labor publications such as the London *Daily Herald*. In the gas and electricity industries the trade unions were asked "to coöperate with the object of ceasing to supply power."³ In the building industry exceptions were made for those employed on housing and hospital work. Sanitary services were to be continued and there was to be no interference by any of the striking groups with health and food services. Indeed, the trade unions concerned were ordered to do "everything in their power to organize the distribution of milk and food to the whole of the population," and hospitals, clinics, etc., were to be efficiently provided for. Other trades were to be called out later, as a "second line of attack," if the General Council saw fit to do so.

It should be evident that the strike call was not in fact a call for a *general strike*. At no time was the shutting down of all industry contemplated. What the Trade Union leaders had intended, indeed, was a short tie-up of the essential services. Such a tie-up, they had felt, would be sufficient to force the government to bring the coal owners to terms. But as days went on they found themselves checkmated by forces with which they had not fully reckoned.⁴

The declaration of a strike in the essential industries did not end the coal negotiations. The General Council,⁵ who were now to conduct the dispute, met

³ *Daily Herald*, London, May 3, p. 1.

⁴ See p. 101.

⁵ The General Council was represented in these negotiations by the Industrial Committee of the Trades Union Council.

with the Prime Minister, and arrived at a formula to be submitted for approval to the miners.⁶ This formula was presented to the miners' leaders but since it left room for a possible wage cut it was rejected.⁷

While the formula was being discussed dramatic events were going on in the offices of the *Daily Mail*, a London morning newspaper. The machine-room staff, who were members of one of the unions ordered to strike on midnight of the next day, had, on their own initiative, objected to a paragraph in a leading article which they felt was unfair to the miners. Supported by other workers in the plant, they asked

⁶ The following was the formula as drawn up:

"The Prime Minister has satisfied himself as a result of the conversation he has had with the representatives of the T. U. C. that if negotiations are continued (it being understood that the notices cease to operate), the representatives of the T. U. C. are confident that a settlement will be reached on the lines of the report within a fortnight." *The New Leader*, London, June 4, 1926, p. 9.

⁷ The other members of the miners' executive having left for the mining districts to prepare for the lockout, this formula was presented to Mr. Cook, secretary of the Miners' Federation on Sunday, May 2, about 36 hours before the General Strike was to begin. Mr. Cook's "protest was vehement," first because the Industrial Committee had met with the Prime Minister without the presence or knowledge of the miners, and secondly, because of "the acceptance of a formula which was contrary to the declared policy of the miners and also contrary to the policy of the Trades Union Council," as expressed in the months preceding (see p. 83). In other words, Mr. Cook insisted that the Trades Union Council adhere to its previously announced policy of "no reduction in wages, no increase in working hours, and no interference with the principle of national agreements"; and he interpreted "on the lines of the report" to mean a resumption of work with a wage reduction. When later in the day the miners' officials, having been recalled to London, met with the Premier and the General Council, they were presented with further formulæ, each of which committed them to a wage reduction. This time Mr. Herbert Smith, the miners' president, "made it quite clear . . . that the miners were not prepared to resume work on a reduction of wages." *New Leader*, London, June 4, 1926, pp. 9 ff.

the editor to modify the statements to which they objected. The editor refused and the men on their own initiative left their work.

News of this event reached the Cabinet while the General Council were still engaged in impressing upon the miners the need for a wage cut. Immediately afterwards the General Council received through the Prime Minister a letter from the Cabinet insisting that the acceptance of the Royal Commission's report included the adjustment of wages or hours pending the results of reorganization. It went on to say that

. . . it has come to the knowledge of the Government not only that specific instructions have been sent directing their members in several of the most vital industries and services of the country to carry out a general strike on Tuesday next, but that overt acts have already taken place, including gross interference with the freedom of the press.

His Majesty's Government, therefore, before it can continue negotiations, must require from the Trades Union Committee both a repudiation of the actions referred to that have already taken place and the immediate and unconditional withdrawal of the instructions for a general strike.⁸

Whether this letter was the voluntary creation of the Prime Minister,⁹ or, as some believe, the result of his having been forced by a threat of resignation on the part of some of his Cabinet members who were opposed to the continuation of negotiations is not

⁸ *Colliery Guardian*, May 7-21, 1926, p. 1095.

⁹ The orders for a general strike had in fact been issued early the day before and had been public property for a day and a half.

known.¹⁰ The fact remains that the Prime Minister broke off negotiations and used the *Daily Mail* incident as the reason. The General Council, not having previously known of the action of the printers, was greatly upset. Some of its members were ready immediately to disavow the action of the printers, and a committee was instructed to see the Prime Minister and explain the situation to him. When the deputation arrived at Downing Street "they were politely informed that their presence was undesirable, as everybody had retired."¹¹ When, on the following day, a further bid for peace was made in Parliament, the labor representatives were informed by Mr. Baldwin that the Constitution had been challenged and that the government demanded unconditional surrender before negotiations could be reopened.

II. THE "REVOLUTION"

So began the general strike of 1926. Had the Prime Minister been less hasty it is probable that this now famous industrial battle might have been averted. For the General Council, it appears, had come to the conclusion that the miners should take a wage cut pending reorganization. Indeed, they had been attempting to convince the miners of this necessity when the Prime Minister broke off negotiations. Had they been successful it is within the realm of possibility that the coal stoppage might have ended at that point. Had they been unable

¹⁰ See discussion by Robertson, D. H., "Narrative of the General Strike of 1926," *The Economic Journal*, Vol. 36, No. 143, p. 383.

¹¹ *New Leader*, London, June 4, 1926, p. 10.

to get the miners to accept their point of view, they might have withdrawn—as they eventually did—from the mining dispute and the general strike would never have taken place.

The response to the general strike order was virtually unanimous and on May 4 about 1,500,000 workers, other than miners, left their jobs.¹² The government, however, was thoroughly prepared to meet the emergency.¹³

In the House of Commons a legal pronouncement by Sir John Simon of the Liberal bench stressed the illegality of the strike. The men (other than the miners) had broken their contracts without due notice. According to this logic “every Trade Union leader who advised and promoted this course of action is liable to damages to the utmost farthing of his possessions.” Next came an ominous court decision to the effect that the general strike was

¹² The estimates as made by D. H. Robertson were as follows: Mines, 850,000; Railways, 450,000; Transport, 400,000; Building, 300,000; Iron and Steel, 150,000; Printing, etc., 150,000. Total, 2,300,000. *The Economic Journal*, Vol. 36, No. 143, p. 384.

¹³ The possibility of a general strike had been foreseen months before and the Organization for the Maintenance of Supplies, a voluntary organization of citizens, pledged to aid in maintaining order and essential services in the event of a general strike, had been announced in the preceding September. This organization had the backing of the Home Secretary and put itself at the disposal of the government immediately the strike was called. Under the Emergency Powers Act, the government issued a proclamation placing the various sections of the country each under a Civil Commissioner and secured the services of some 500,000 volunteers to keep essential services going. An offer of the trade unions to assist in the maintenance of food supplies was ignored; the London milk supply was taken over by the government; and armed convoys assisted in the movement of goods. A government newspaper edited by a cabinet member was started, and was followed by a similar move on the part of the workers. Both papers were in the main propaganda sheets and the formulation of a balanced public opinion was thereby made impossible.

illegal and that the individuals partaking in it were not entitled to the immunity granted to persons involved in trade disputes by the Trade Disputes Act of 1906.¹⁴ Irrespective of the ultimate legal value of this decision, it did for the moment suggest that the courts might tie up union funds and it is believed to have contributed materially to the decision of the General Council to call off the strike.¹⁵

The general strike lasted nine days, and through it all not one person was killed by violence and not a single shot was fired.¹⁶ It was brought to an end through the offices of Sir Herbert Samuel, Chairman of the Royal Commission. With the aid of the General Council,¹⁷ he drew up a formula which was submitted to the miners for approval. The essence of the formula centered in the statement that wages should not be revised until reorganization of the coal industry, as proposed by the Commission, was definitely assured.¹⁸ Though endorsed by the Gen-

¹⁴ This decision was rendered by Mr. Justice Astbury in *National Sailors' and Firemen's Union in Great Britain v. Reed and others*, May 11, 1926.

¹⁵ Robertson, D. H., "Narrative of the General Strike of 1926," *The Economic Journal*, Vol. 36, No. 143, p. 383.

¹⁶ *Ibid.*, p. 387. "Several stories are told of the relations between the opposing forces which, provided the picturesque is not too rashly assumed to be the typical, seem worth repeating. At Plymouth a football match was arranged between the police and the strikers, at which the Chief Constable's wife kicked off. At Toynbee Hall an evening meeting was arranged between twenty-five striking dockers and twenty-five undergraduate special constables; in the course of the evening two dockers talked to one another tactfully for a quarter of an hour, each under the impression that the other was an undergraduate."

¹⁷ The miners were not represented.

¹⁸ The Samuel Memorandum further provided for a renewal of the subsidy during the period of negotiations, and for the establishment of a national wages board. Current wage rates were not to be revised until sufficient assurance had been made that the Commission's reorganization measures would be effectively adopted and provisions made for displaced workers and the formulation of a new agreement.

eral Council the memorandum was rejected by the miners. It implied a reduction of wage rates and this, if reorganization were actually effected, would, the miners now insisted, be unnecessary.

It appeared impossible to persuade the miners to accept lower wages before reorganization was actually undertaken. Yet the General Council apparently was convinced that a decrease in wages was necessary. Moreover, the essential services were gradually improving. The electricity supply was being rather fully maintained, and omnibus, tube, and street car service was being slowly extended. Likewise, the motor car and truck and hundreds of thousands of drivers were playing an important part in alleviating transport difficulties.¹⁹ Though the press had been seriously curtailed the most effective means of news dissemination, the British Broadcasting Company, was in the control of the government. Finally, the ghost of legal action stalked in the background. Foreign aid to the strikers had been embargoed by the government and rumor had it that the Cabinet had decided to repeal the Trade Disputes Act, confiscate all trade union funds, and arrest all the leaders of the trade unions which were on strike.²⁰

The General Council decided to act by itself. It accepted the Samuel Memorandum and called off the general strike "in order that negotiations could be resumed in the mining industry." The strike leaders were evidently of the opinion that their acceptance of this memorandum and the cessation of the

¹⁹ The consumption of gasoline increased by approximately 40 per cent during the general strike.

²⁰ Sharp, Clifford, "The Comedy of the Great English Strike," *New Republic*, Vol. 47, No. 605, p. 195.

general strike committed the Prime Minister to the terms of the memorandum. In this, however, they were mistaken. Their misapprehension had little effect upon the course of events, for no sooner had the Prime Minister been informed that the strike was to be terminated than the miners' leaders publicly repudiated the Samuel terms. They had not been a party to calling off the general strike and would continue to resist the terms proposed.

Mr. Baldwin then submitted his own proposals²¹ for "a reasonable settlement" of the coal dispute. They included a series of concrete measures relative to reorganization to be put into effect by the government. But they omitted any reference to state purchase of royalties. They proposed a temporary subsidy of £3,000,000 and specifically demanded an immediate wage reduction.

The Miners' Federation unanimously rejected these proposals. A reduction of wages which "do not at present provide for a decent standard of living" was out of the question. The same attitude was expressed toward the proposal of a National Board with an independent chairman who "would have power to abolish the national minimum wage." The owners, too, expressed hostility to the new proposals. And here they openly revealed their true attitude toward the Royal Commission's Report.

The industry requires freedom and stability in its operations as conditions essential to its prosperity, and the initiating of policies, either legislative or administrative, such as are contemplated in certain of the recommendations of the Royal Commission must inevi-

²¹ For the details of these proposals see Appendix B.

tably have the effect of restricting its operations and increasing the difficulty of a restoration to sound economic conditions based upon the interests of the community.²²

They strenuously opposed any interference by the government and stated emphatically "that it will be impossible to continue the conduct of the industry under private enterprise unless it is accorded the same freedom from political interference as is enjoyed by other industries."²³

To these replies the Prime Minister showed his displeasure in no unmixed terms. The government, although it held open its offer of a subsidy for ten days more, would now consider itself no longer bound by the terms of the offer that had been rejected. The deadlock was final. The coal stoppage continued and the government settled down to a policy of watchful waiting.

Thus had the general strike, as far as the coal stoppage was concerned, been fought in vain. Its sudden end bewildered the strikers. Some railed against the General Council; others felt relieved. The solidarity of the British labor movement had been revealed. But the limitations of "direct action" in this day of the automobile and the lorry, the radio and the telephone, had also been revealed. Tying up transport and newspaper facilities no longer meant entire deprivation either of food or information. As far as the coal dispute was concerned, little or nothing was accomplished by the general strike.

²² Statement of Mining Association of Great Britain, presented to Minister of Labor, May 21, 1926; *Colliery Guardian*, May 28, 1926, p. 1164.

²³ *Ibid.*

It is probable, indeed, that more would have been accomplished by an embargo on the handling of coal. As it was, all industry was affected and all classes in the population suffered. Had labor refused to load and transport coal, only those directly connected with the larger coal consuming industries would have felt the burden of the crisis. The larger unions would not have been crippled. Trade union funds would not have been exhausted,²⁴ nor would organized labor have suffered the estrangement of many of its friends. The legality of labor's position, for 20 years considered unassailable, would not have been brought into question, and the proposals for restrictive trade union legislation, now before Parliament, would never have appeared.²⁵ As matters now stand, the trade unions of Great Britain, for many years on the offensive, have been forced into a defensive position.

III. THE PROTRACTED STRUGGLE

Even the most pessimistic of observers did not foresee a continuation of the coal stoppage into the autumn of 1926. It was generally held that, before the summer was half over, either the miners would yield from sheer exhaustion or the government would force the owners from their obdurate position. But

²⁴ The transport workers' union spent £1,000,000 in strike relief and went into debt to the extent of over £500,000. Over 45,000 railway workers found themselves out of employment at the end of the struggle and some 200,000 were put on a three-day week.

²⁵ Since the above was written, the House of Commons has passed the Trade Disputes and Trade Unions Bill, designed, among other things, to make certain general and sympathetic strikes illegal. A strike is declared to be illegal if it has any object other than furthering a dispute within the industry in which the strikers are engaged, or if it is designed or calculated to coerce the government either directly or by inflicting hardship upon the community.

the miners, aided by funds from every quarter of the globe²⁶ and by relief from the Public Guardians,²⁷ remained away from the pits for 31 weeks.

During this period the owners became progressively more insistent upon their own terms of settlement. Attempts to reopen negotiations several times in the course of the summer showed the deadlock to be unbroken. A conference on June 8 made it clear that the stoppage had thus far had little effect upon the demands of either side. The owners continued to insist upon either a longer day and lower wages or lower district minima. The miners were not prepared to discuss wages apart from reorganization. Focussing their attention upon the need for higher coal prices, they were insistent that the wages, hours, and conditions of 1924 could be maintained if the owners combined into a selling organization that would coöperate with the German coal industry for the maintenance of export prices. Domestic prices could also be kept at a profitable level by a selling combination, and the profits of the middlemen, eliminated by an inland selling organization, would be of considerable aid in overcoming the financial shortcomings of the industry.²⁸

²⁶ The total funds provided for miners' relief are estimated at over \$5,000,000. Among the contributors, it is of interest to note, was His Royal Highness, the Prince of Wales.

²⁷ Over 1,162,000 extra persons were given poor relief as a result of the coal strike. The total receiving relief numbered over 2,000,000. The amount spent for outdoor relief in 1926 was over \$250,000,000.

²⁸ During the summer months the miners' leaders emphasized repeatedly the need for a selling organization to overcome the prevailing wastes of competitive selling. The Labor press devoted much attention to this means for achieving a surplus which would enable the industry to pay the pre-strike wage rate. The selling organization was the subject of much discussion among the Labor groups throughout the country.

In the early summer the government, in spite of the Royal Commission's recommendation to the contrary, had become converted to the desirability of longer hours²⁹ as a means of rehabilitating the industry. Accordingly, legislation was submitted to Parliament extending the permissible hours of employment underground from seven to eight.³⁰ Steps were also taken to further the reorganization of the industry by the enactment of the Mining Industry Bill (1926).³¹ This bill, which received the Royal Assent on August 4, 1926, was little more than a gesture on the part of the government and "at best expressed a pious injunction in relation to amalgamation."³² Its clauses, with few exceptions, merely suggested steps that could be taken by the collieries,

²⁹ On May 14 the Owners' Association had met with members of the Cabinet and pressed for the introduction of an Eight-Hour Bill. This meeting played an important part in the Cabinet's subsequent action, for the Prime Minister and his colleagues "*were impressed with the arguments which were put forward, and also as a result of their own inquiries and the advice which they received from their highly skilled technical experts.*" *Colliery Guardian*, September 10, 1926, p. 577. Italics are authors'.

³⁰ The Bill received the Royal Assent on July 9, 1926.

³¹ This bill made provision for (1) facilitating voluntary amalgamations, (2) extending facilities for the working of minerals, (3) instituting a levy on royalties of one shilling for every twenty shillings of rental value to be applied to miners' welfare work; (4) restricting the recruitment of mine workers; (5) limiting assessments in respect to coal mines excess payments; (6) establishing profit-sharing schemes; and (7) setting up pit committees.

The second clause, an amendment to the Mines (Working Facilities and Support) Act, provided machinery for the removal of certain restrictions imposed by land owners on working the coal beneath the surface and was an attempt to do away with certain prevailing difficulties which were emphasized in the demand for state ownership of the coal resources.

The fifth clause was relative to certain assessments and levies which arose under the Coal Mines Agreement Act of 1918 when the industry was under government control, and the Coal Mines Acts of 1920 and 1921 when a subsidy was paid to the industry.

³² *Colliery Guardian*, July 2, 1926, p. 29.

if they so desired, with the offer of a few minor inducements by the government.³³

The enactment of the Eight-Hour Bill made legally possible the formulation of a wage agreement on the basis of an eight-hour day. No sooner had it become a law, in fact, than the owners posted notices in the various districts offering employment to the miners on the new basis.³⁴ These offers were not made to the district unions as organized bodies. They were addressed to the workmen directly.

The miners who had relentlessly fought the Eight-Hour Bill adopted an uncompromising attitude toward the new terms. The district unions with one exception turned a deaf ear to the owners' proposals, and the Federation's executive reiterated its slogan of no reduction of wages and no lengthening of hours. Here and there in the Midlands a few miners drifted back to work,³⁵ but they did not long remain at their jobs. The government, in turn, continued its "watchful waiting," appropriated £3,000,000 for the purchase of foreign coal, and appointed a committee to inquire into and report on the desirability and practicability of developing coöperative selling in the coal mining industry and to make recommendations.

IV. ATTEMPTED INTERVENTION

The government saw its duty fulfilled in the enactment of the Eight-Hour Bill and the Mining Indus-

³³ *Ibid.*

³⁴ In the majority of districts the terms offered included a temporary continuation of the pre-strike wages. Two minor districts offered an increase over the April wages, while in Northumberland and Durham a 10 per cent decrease was involved.

³⁵ Estimates placed the number at about 10,000.

try Bill (1926),³⁶ in the appointment of a committee on coöperative selling, and in the appropriation to supply the nation's essential coal needs. It then awaited the terms and conditions of work which could "only be settled by agreement between owners and miners." But others in the community, anxious to free Great Britain from the chaos that threatened all industry, were not satisfied with mere inaction. They attempted to find a formula that would bring peace to the coal mines again. This was particularly true of certain religious groups. Several Bishops of the Church of England together with some prominent Free Churchmen proposed to the owners and miners that the Samuel Commission be reappointed to draw up a scheme out of which a settlement could be made. For this proposal they found little sympathy among the owners who indicated that the recommendations of the Report provided no solution. The attitude of the miners, on the other hand, "exhibited a distinct advance on any previous proposals which they have shown themselves ready to accept."³⁷ Even though opposed by the owners, a memorandum drawn up by the Churchmen and approved by the executive of the Miners' Federation³⁸ was submitted to the Prime Minister with a request that he meet a deputation from the Church representatives.³⁹

³⁶ See page 104.

³⁷ *Colliery Guardian*, July 23, 1926, p. 193.

³⁸ When the memorandum of the Churches was later referred to the district miners' associations, it was rejected by the members.

³⁹ The terms of the memorandum were, briefly, these:

(1) Work to be immediately resumed under conditions obtaining when the stoppage began. (2) A national settlement to be reached within a period of four months. (3) The reorganization

Four and a half months after the Royal Commission had rendered its Report it was thus asked to do the things it should originally have done. After eleven weeks of shutdown it was requested to "work out in detail" its plan for reorganization and wage adjustments, a task which if accomplished in the preceding spring would have gone far toward eliminating the friction which had brought on the debacle.

It now remained for the Prime Minister to express his attitude toward the suggestion. Accordingly he notified the Bishop of Lichfield that since the proposals rested upon a further subsidy, to which the government could not possibly assent, it would be useless for him to take the matter up with the owners. "Apart from any other consideration, the disastrous effect of this prolonged stoppage on the national finances has made any further subsidy in aid of wages quite out of the question."⁴⁰ Nor

scheme and wage references of the Report to be worked out in detail by the Commissioners who should be reappointed and their results incorporated by them in a Parliamentary Bill. (4) Those parts of the reorganization scheme capable of early application to be put into immediate effect. (5) Assurance from government of earliest possible legislative sanction of Report. (6) Arbitration of such disagreements as exist at end of a defined period. (7) A government subsidy during the defined period under a scheme to be drawn up by the commissioners.

⁴⁰ *Colliery Guardian*, July 23, 1926, p. 194. "I observe that you say that the representatives of the Churches believe that the solution of the coal problem lies in the adoption of the Royal Commission Report in its entirety. I confess that I find some difficulty in reconciling this statement with the feature of your proposals to which I have called attention. One of the most emphatic recommendations of the Commission was that there should be no more subsidy. 'It is indefensible,' they say, 'that the people engaged in other industries should be taxed in order to provide profits for the employers or to maintain the wages of the workers in the particular industry affected—their own profits

could the government see its way clear toward guaranteeing a loan for the industry to help finance the costs of reorganization. The government had already agreed to accept all of the recommendations of the Report which involved state action, excepting the nationalization of royalties and the establishment of municipal selling agencies. The latter was already being considered by the recently appointed committee; the former had been laid aside, for, "it would make no contribution to the solution of the immediate practical difficulty."⁴¹

Three million pounds were available for the purchase of foreign coal, but the national finances precluded any further subsidy or loan,⁴² even though such aid might bring peace and an end to the chaos which was costing Great Britain £2,000,000 a day!⁴³

and their own wages being often no better and sometimes worse.' And again, 'We express no opinion whether the grant of a subsidy last July was unavoidable or not, but we think its continuance indefensible. The subsidy should stop at the end of the authorized term and should never be repeated.'

⁴¹ *Ibid.*, p. 195.

⁴² A scheme for financing the coal industry during reorganization was proposed by E. F. Wise in the *New Leader* of July 23, 1926. He proposed nationalizing the royalties and allocating £10,000,000 of the government bonds which otherwise would go to compensate the royalty owners to a Guarantee Fund for subsidizing mine owners, where necessary, during the four months that the old wage rate remained in existence. This would reduce compensation immediately payable in exchange for royalties by about 10 per cent. If this plan was refused it was suggested that 10 per cent of the bonds could be loaned to the Guarantee Fund and repayment and interest to the royalty owners could be secured by a small addition to royalties. If, however, the nationalization of royalties was refused by the government the money could still be raised by a public loan secured on royalties, to be repaid by a small tax on royalty incomes.

⁴³ Brailsford, H. W., "An Armistice in the Mines," *The New Leader*, Vol. 13, No. 38, p. 9. The total loss from April 30 to July 19 resulting from the strike was estimated by Mr. A. M. Samuel (Parliamentary Secretary, Overseas Trade Department) at

When at last the miners had yielded to the demand for a reconsideration of their wages, with a proviso that reorganization be given immediate attention, they were turned down. For their proposal meant the granting of a temporary subsidy and to this the government refused assent.

V. THE "CHANGE OF HEART"

The good offices of the Churchmen having brought no results the miners made a final attempt to bridge the gulf. They went to the owners themselves and asked for a national agreement under a seven-hour day and stated their willingness to reconsider the wage question. But a hundred and eleven days of stoppage had made the owners more determined than ever before to avoid compromise. Consideration of the wage problem could not be made by the Mining Association of Great Britain, for "the districts composing that body in unmistakable language refused to allow anyone to determine the terms and conditions upon which work can be resumed in the districts, except by direct negotiation with the representatives of their own men in the districts." "

about £150,000,000. This loss is about equal to the contraction in bank clearings for the period, April 24 to July 31. The actual contraction as compared to the same period of 1925 was £162,000,000, and deducting 7 per cent, by which wholesale prices fell, the total approximates £150,000,000. *The Statist*, Vol. 108, No. 2529, p. 245.

The loss for the first four months is estimated at about £200,000,000. Of the 147 blast furnaces in operation on the eve of the stoppage only eight were in operation at the end of July. The production of pig iron fell from 539,100 tons in April to 17,900 in July, and some 600,000 workers (excluding miners) had been added to the unemployment rolls. *Manchester Guardian Weekly*, Sept. 17, 1926, p. 238.

"*Colliery Guardian*, August 20, 1926, p. 409.

The miners had indeed received a severe setback. It looked as if they were due for a dictated peace. The miners of Nottinghamshire and Derbyshire were gradually drifting back to work. Many in these districts had accepted the offer of certain owners to reopen the pits on a seven and one-half hour basis with wages as before the stoppage. Indeed, one district had gone so far as to ask for permission to enter into local negotiations.⁴⁵ The need for relief funds, too, was pressing hard upon the miners' organization. The Federation had been able to supply its members with little more than a shilling a week as strike relief. Extreme measures were necessary to avoid a complete collapse.

To secure an "orderly retreat" the miners, as a last resort, on September 3, asked the Chancellor of the Exchequer, who was in charge of the situation in the absence of the Prime Minister, to "convene and attend" a joint conference of owners and miners.⁴⁶ They were "prepared to enter negotiations for a new national agreement with a view to the reduction in labor costs to meet the immediate necessities of the industry."⁴⁷ The owners found themselves unable to accept an invitation by the government to attend a tri-partite conference. "They had no authority from the district associations to enter into negotiations on terms." They were determined to place a national agreement outside the realm of possibility. Subsequently, however, they

⁴⁵ This request was made by the Nottingham Miners' Council on August 31, 1926.

⁴⁶ The Chancellor of the Exchequer, Mr. Winston Churchill, was one of the so-called "die-hards" who, it is believed, forced the Prime Minister to break off negotiations with the General Council in May and thus precipitate the general strike.

⁴⁷ *Colliery Guardian*, September 10, 1926, p. 570.

did meet, not with the miners, but with the Cabinet Committee on coal. And, to their surprise, the Chancellor who had encouraged the owners in their demand that the miners accept longer hours turned to the encouragement of the miners in their demand for a national agreement. He suggested that the miners' executive had given evidence of "a change of heart" and that the owners should meet with them. He pointed out that on numerous occasions both before and during the early weeks of the stoppage the owners had indicated a willingness to negotiate nationally. Indeed, the government would never have sponsored the passage of the Eight-Hour Bill, had it known that the owners would refuse to discuss a national settlement. The Cabinet was under the impression that the owners had promised to negotiate a national agreement, and it was only because of this impression that it had taken out of the Eight-Hour Bill a series of original conditions limiting the adoption of the eight-hour day.

The existence of this promise the owners denied. Even in the early days of the stoppage (late in May) they had expressed their determination to throw the national agreement overboard. It appears that even at that early date "it was clearly understood between them that there was no question of a general resumption of work simultaneously; that it would be district by district."⁴⁸ They had never refused, and would not refuse to meet with the Min-

⁴⁸ *Ibid.*, p. 577. "A general resumption of work simultaneously through the country is impossible and the only way is to settle district by district. In that way, once a considerable number of districts have resumed work on a tolerably large scale, the remainder will soon follow." *Daily Herald*, September 7, 1926, p. 1.

ers' Federation upon any general question affecting the safety, health, or welfare of the miners, but the question of wages could only be dealt with in the districts.

Nothing remained for the miners but to accept a modified national agreement which would permit of district settlements. Some 25,000 men had returned to the pits in Nottingham and Derby, and in the smaller districts signs of a breakaway were each day becoming more evident. The miners' executives capitulated and after meeting with Mr. Churchill, the latter again asked the owners for a tri-partite conference, and set forth the features of a plan of settlement. It was proposed that general principles for national negotiations should be formulated and that district settlements in conformity with these principles should be made.

Wages, hours, and other conditions, however, were to be dealt with in the district settlements, and work was to be resumed immediately on their conclusion. Some semblance of national bargaining was maintained by the proposal that matters formerly settled nationally should be confirmed by a central body and that a national agreement be effected relative to many of the points hitherto dealt with on a national basis.⁴⁹

But even these terms fell on deaf ears. There was to be no national agreement.⁵⁰ This was the

⁴⁹ These matters are mainly: the definition of costs other than wages, the ratio of the division of surpluses, intervals of income ascertainment, etc.

⁵⁰ Evidences of the miners' defeat were already visible in the Midlands where some 70,000 workers had returned to the mines at wages suggested by the owners. Moreover the owners' policy had received the approval of the National Union of Manufacturers. *Colliery Guardian*, September 10, 1926, p. 571.

emphatic decision of all but one of the district owners' associations. Settlements on a national basis linked industry with politics; such settlements took the consideration of purely industrial questions out of their proper economic sphere and were "a menace to the community as a whole."⁵¹

This was the attitude of the owners when Mr. Baldwin once more took up the situation himself on September 17. He stated to the miners that "the Mining Associations have now declined in a most emphatic manner to enter into any discussions with your Federation on the subject of hours and wages." Furthermore, he confessed his impotence in the crisis and said that it was not "within the power of his Majesty's government to bring about a conference."

That a national conference could be brought about by a repeal of the Eight-Hour Law appears to have been left out of consideration by the Prime Minister. The owners had refused to meet with the miners nationally and there the matter stood. One further opening, however, remained. The Mining Association had declared that the owners in the districts would observe the main principles of a national agreement. Consequently a settlement, the Prime Minister believed, could be satisfactorily secured if the miners would go back to work on provisional district settlements to be later reviewed by a national tribunal. Such a tribunal he was willing to create as soon as work was resumed. That is to say, if the men returned to the pits on provisional district agreements the government would create a national arbitration tribunal which would review

⁵¹ *Ibid.*, September 17, 1926, p. 624.

any matter of a kind customarily dealt with by the national agreement. The tribunal would modify any district agreements submitted to it and the wages it decided upon would become legally mandatory upon the owners of the district in question.

The tribunal, however, was to pass only upon such agreements as provided for more than a seven-hour day. If this machinery of appeal was to be used, in short, the men would first of all have to submit to longer hours. Moreover, the scheme made no provision for the national organization of the miners. Under it the Miners' Federation would lose its customary functions and the responsibility for negotiation would become relegated to the district organizations. This failure to take cognizance of the Miners' Federation was keenly felt by the workers. They insisted that any peace must rest on the "recognition of the fact that the miners of Great Britain form a single body with common interests and that they are entitled to insist that those interests shall continue to be protected by their national organization."⁵²

The new proposal of the Prime Minister was rejected, but the rejection was followed by an offer on the part of the miners to return to work at the 1921 wage rates if the terms of a national agreement were referred to an independent tribunal whose membership was to be agreed upon by both sides. The tribunal, it was proposed, should also consider and apply to the industry the recommendations of the Royal Commission. The miners, in short, finally admitted the necessity for a revision of wages. But they were trying as hard as they could not only to

⁵² *Ibid.*, September 24, 1926, p. 675.

avoid the lengthening of the working day but also to keep intact their national organization.

The miners' proposals did not, in the eyes of the government "afford the means of reaching an early or a lasting settlement," and proposals into which the question of longer hours did not enter could not in the government's view, afford a basis of settlement. The miners were told that they must either accept or refuse the Prime Minister's offer as originally made. Their reply took the form of a resolution calling for the continuation of the stoppage; the withdrawal of the safety men from every colliery; ⁵³ an embargo on all foreign produced coal; a levy on all trade union workers to help finance the miners; and the organization of active propaganda throughout the nation.

VI. THE BEGINNING OF THE END

The temper of the miners had turned from one of compromise to one of belligerency. They were determined "to stand by and defend the conditions existing before the lockout." ⁵⁴ But their changed attitude was to bring no favorable results. The safety men did not leave the pits; the trade union levy brought but little help; ⁵⁵ and the request for

⁵³ The safety men are those who have to do with pumping, ventilation, etc. They remained at work when the stoppage began in order to prevent the mines from flooding or being otherwise damaged. They are not generally affiliated with the Miners' Federation and refused to heed the call of the miners to leave the pits.

⁵⁴ *Colliery Guardian*, October 22, 1926, p. 891.

⁵⁵ The trade union executives called for a contribution of one penny a day from all members who were employed. It must be borne in mind that most of the trade unions had depleted treasuries as a consequence of the general strike and that the unemployment in those industries affected by the coal stoppage was draining the resources of many of the labor organizations.

an embargo upon foreign coal was turned down. It looked as if the Miners' Federation was indeed crumbling. Some 200,000 men were back at work, and efforts to stem the tide proved of little avail. The government meanwhile continued to insist that district arrangements as to hours and wages must precede any discussion of national principles. And so the stoppage dragged on into the late autumn.

On October 26 the General Council of the Trades Union Council undertook once more to bring about a settlement—a task in which it had failed in the previous spring. It asked the Prime Minister to procure a reopening of negotiations, and following this request came a series of government conferences, first with the miners and later with the owners. On November 6, the government offered to the miners a statement of principles which the owners were understood to be prepared to follow in negotiating district settlements.⁵⁶ These were, like others that

⁵⁶ The statement of principles as submitted to the miners was as follows:

(1) That wages should continue to be determined by the results of the industry in the district ascertained jointly by accountants appointed by each side, with provision as hitherto for joint test audits, and the reference of any question arising therefrom to the independent chairman of the district board, and that the owners in each district should discuss with the workmen's representatives any method suggested for removing doubts about the fairness of transfer prices.

(2) That the ratio for division of net proceeds between workmen and owners should range between 87 to wages and 13 to profits, and 85 to wages and 15 to profits.

(3) That the minimum percentage on basic rates should be, subject to district settlements on hours and working conditions, not less than the equivalent of 20 per cent on standard rates.

(4) That the subsistence wage to be paid to low-paid day wage men should be settled by arbitration in the district in the event of failure of the two sides to agree.

Colliery Guardian, November 12, 1926, p. 1055.

had preceded, rejected by the miners. Other proposals then followed, but they received the approval of neither the miners nor the owners.⁵⁷

Meanwhile the miners of Nottinghamshire had independently negotiated a district agreement under which they agreed to return to work on a seven and one-half hour basis. In the other districts the men were going back to the pits in increasingly large numbers, some 400,000 men being at work by late November. In despair a delegate conference of the Miners' Federation recommended that all districts open negotiations with the owners with the proviso that the terms agreed upon in each district be submitted to a further national conference for approval. When the delegate conference reassembled the following week it was informed that a settlement had been made in Scotland on the basis of an eight-hour day, and that in Northumberland, too, an agreement had been reached. The Miners' Federation of Great Britain, it was now evident, was unable further to control the situation. The stoppage was virtually over. It remained for the individual districts to secure the best terms possible.⁵⁸

⁵⁷ The later proposals provided for a supervisory tribunal to which the miners could appeal. The owners were opposed to anything that savored of compulsory arbitration. Some of them went so far as to intimate that if a national tribunal were set up to which the workers could appeal the local owners' associations would refuse to make district or even pit agreements with their laborers. That is to say, work would be allowed only on a basis of day to day agreements. *London Times*, September 29, 1926.

⁵⁸ "All the agreements received contain provisions for maintaining wages in relation to the total proceeds, calculated by periodical ascertainment, and provision is also made for a minimum percentage to be paid on basis rates, below which wages are not to fall, and for the payment of a subsistence wage. A percentage substantially higher than the new minimum has in

VII. THE COST OF THE STRUGGLE

Resolved with religious determination to accept no increase in their working hours and bent upon maintaining intact their national organization, the miners, urged on by their leaders, had remained away from the pits for almost seven months. They had suffered the deprivations incident to so long an industrial struggle. Chaos had reigned in British industry. The production of pig iron which had averaged over 500,000 tons per month in the period before the strike had fallen to about 13,000 tons in the autumn;⁵⁹ railway traffic had decreased by approximately 700,000,000 ton-miles per month or about 50 per cent as compared with the previous

most cases been fixed for periods of varying lengths, after which wages are to be determined by the proceeds, as laid down in the agreements.

"The agreements made in Scotland, South Wales and Monmouthshire, Yorkshire, and Lancashire and Cheshire, are for three years, to be terminated after that time by one or two months' notice from either side. The term is five years in Nottingham and Derby, four years in Cannock Chase, two years in Northumberland, and one year in Durham.

"The eight-hour shift is to apply to underground workers in Scotland, Northumberland and Durham (except for hewers, who now work seven-and-one-half-hour shifts in these two counties). South Wales and Monmouthshire (except on Saturdays, when seven are to be worked), Cannock Chase (except on Saturdays, when five and one-half hours are to be worked), and Lancashire and Cheshire (except for a six-hour Saturday); in Yorkshire, Nottinghamshire and North Derbyshire the shift is to be seven and one-half hours. As regards surface workers, the hours are to be forty-nine per week in most cases; but in South Wales and Monmouthshire they are to be forty-eight and in Cannock Chase forty-eight and one-quarter; in Lancashire and Cheshire, there is to be an hour's increase on the pre-stoppage time of work people manipulating coal; and in Nottinghamshire and North Derbyshire there is to be a thirty minutes' increase in the case of the same class." *The Ministry of Labour Gazette*, Vol. 34, December, 1926, p. 434.

⁵⁹ *The Manchester Guardian Commercial*, Vol. 13, No. 336 (1926), p. 625.

summer; ⁶⁰ departures of laden ships had decreased by 12,000,000 tons, that is, by 40 per cent; and the unemployed outside of the coal industry had been augmented by over 250,000. ⁶¹ To keep British industry going over 20,000,000 ⁶² tons of coal had been brought in from abroad at a cost of \$215,000,000 ⁶³ and the excess of imports which for the same period of 1925 amounted to \$1,510,000,000 had grown to \$1,820,000,000. ⁶⁴ The stoppage had cost Great Britain well over \$1,000,000,000. ⁶⁵

Yet in spite of all this the miners had been unable to secure their demands. Nor had they been able to depose the leaders of the coal owners who had insisted on district negotiations and the disrupting of the Miners' Federation. The owners, in spite of their "stupidity" ⁶⁶ had emerged victorious—even though the victory was essentially Pyrrhic. At a tremendous cost to themselves and to the rest of the nation they had succeeded in making impotent as a

⁶⁰ *The Economist*, Vol. 103, No. 4344, 1926, Monthly Supplement, p. 40.

⁶¹ *Ministry of Labour Gazette*, Vol. 34, No. 12, p. 443.

⁶² "Commercial History of 1926," *The Economist*, Feb. 12, 1927, p. 50.

⁶³ *Ibid.*

⁶⁴ *Ibid.*, Vol. 103, No. 4344, Monthly Supplement (1926), p. 40.

⁶⁵ Professor A. L. Bowley has estimated the direct cost of the strike at £116,000,000, an amount equal to 4½ per cent of the national income. This figure does not include the indirect losses resulting from short-time employment and other indirect results of the stoppage.

An estimate made by the *Financial News*, a London newspaper, places the cost of the strike at £3,000,000 per day or about three-sevenths of the daily cost of the World War to Great Britain. An estimate of the probable loss published in the *Economist* (Vol. 103, No. 4343, p. 852) runs up to £350,000,000 for the entire strike period.

⁶⁶ In the opinion of Mr. Stanley Baldwin, Prime Minister, the owners had acted with "stupidity and discourtesy" in their continual refusal to meet with the government and the miners.

national bargaining unit the Miners' Federation of Great Britain.

The struggle is for the moment at an end. The miners returned to work under conditions far less favorable than those offered to them by the government seven months earlier. Their strategy had failed. Had they accepted the terms originally offered by the Cabinet, they would probably have been able at least to retain the seven-hour day. There would have been, moreover, a possibility of some improvement in the organization of the industry along the lines of the Royal Commission's Report. Granted, as many insist, that the owners would have refused to accede to the government's terms, the onus of prolonging the stoppage would not have been placed upon the shoulders of the miners. As it was, they lost the seven-hour day. With wages and hours varying from district to district, survival for the inefficient or uneconomic sections of the industry has become more a function of the owners' bargaining ability and less the result of efficient management.

The end of the stoppage brought immediate activity to the coal fields. Both domestic and foreign coal bins were empty and required replenishment. In the manufacturing trades the necessity of replacing depleted stocks stimulated production and made possible the retrieving of part of the losses entailed in the preceding seven months. Whether the stoppage has left a permanent mark upon the coal export trade it is difficult to predict. Some of the foreign markets have been captured by the German coal producers, and they refuse to relin-

quish their new customers without a struggle. Whether the seven-and-a-half or the eight-hour day will necessarily lead to lower production costs in an industry where labor chafes under the burden of longer hours and is disgruntled by the disruption of its national organization remains to be seen. To the miner the seven-hour day represents the fruits of years of striving; the national union the culmination of generations of struggle. An armistice has been declared. When hostilities will begin again will be determined by the time required to reassemble the forces and refill the treasury of the Miners' Federation.

PART II

THE LOGIC OF EVENTS

CHAPTER VI

THE ROOTS OF THE MALADY

The importance of the crisis in the British coal mining industry lies not so much in the fact that it has wrought havoc in Great Britain as in the fact that it has brought into the open long-hidden forces which for more than a generation have been making increasingly difficult the industry's position. The inability to cope with present conditions is not the result of recent developments alone. For 35 years forces had been operating to bring on the impasse in which the British coal industry now finds itself. Recent occurrences in other coal producing and coal consuming countries have perhaps hastened the event, but the probability is that a crisis would eventually have come even though the drift of recent events had been different.

The prosperous condition of the coal trade in the years preceding the World War has already been sufficiently depicted. These had been years of high coal prices, comfortable profits, substantial wages. Likewise the post-war period had been an exceptionally profitable one for the coal trade. Everything seemed to point to an era of continued growth and prosperity. Yet this very prosperity was weaving a tangled web in which the industry was later to be inextricably caught.

Although the industry had for some years been grappling with increasingly difficult natural conditions, the accumulating problems which it was soon to face gave little concern to those engaged in the production of coal. The growing industrialization of Europe had brought an increase in the value of coal, and hence the true condition of Great Britain's coal industry was concealed by its increasing profitability. The output of 1913, which represented a gain of 26 per cent over the average production of the highly profitable five years 1899 to 1903,¹ had increased in value by over 47 per cent.² An output which had grown one-fourth in size had, in other words, increased one-half in value.

Under such conditions little thought was given to the prevailing undercurrents. The British coal industry, like all other competitive enterprise, was little accustomed, prior to the present decade, to take heed of the forces that were to determine its future. This was particularly true in times of prosperity when business was too much occupied in taking advantage of the immediate situation to give attention to the tendencies shaping conditions for the days to follow. Although the coal trade had its occasional depressions, its history was on the whole one of continued growth and good profits.³ With a

¹ In terms of profits per ton the average for these five years was the highest in the industry's history.

² Royal Commission on the Coal Industry (1925), *Report*, Vol. III, p. 3.

³ "There have of course been depressions before, but if you look back at the old depressions and see their effect it is something very different. There was a severe depression, as you know, in 1886; everybody was very alarmed; there was a Royal Commission on the depression in trade. If you look up the figures to

growing margin between the cost and the value of its product the pre-war coal industry went merrily along, confident of its future. The increasing output was considered sufficient evidence of the efficiency and success of the industry and justified the owners' belief that prosperity would continue. And, to be sure, the addition of 62,000,000 tons to the output of the industry during the first 13 years of the present century was no mean achievement.

This growing output was, however, being produced at steadily increasing costs. And it was these rising costs which lay in considerable measure at the roots of the recent impasse. Waning resources, the shortening of the working day, and gradually increasing wages had been steadily forcing production costs to higher and higher levels. But so long as the demand for the industry's product was such that "the coal owner only had to reckon his cost, add a reasonable profit and sell his coal" ⁴ the pressure of increasing

see what its effect was on the Coal Mining Industry you find that in 1885 the output of coal was 159,000,000 tons; it dropped to 157,000,000 tons in 1886, the year of the depression; and then it recovered again to 162,000,000 in 1887. Exports show very much the same sort of variation. They were 22,700,000 tons in 1885; they dropped to 22,100,000 tons in 1886, and they rose again to 23,200,000 tons in 1887. The same thing happened in the depression of 1893. The total production of coal in 1892 was 181,800,000 tons; it dropped in 1893 to 164,000,000 tons, largely owing to the big dispute there was in the industry that year, but it recovered again in 1894 to 188,278,000 tons, well above the 1892 figure. Exports show the same thing: they dropped by rather under 2,000,000 tons in 1893 and recovered in 1894 to 2,000,000 tons higher than the 1892 figure. From that it is clear that what is happening now is something entirely different. I do not know whether it is different in kind, but it is certainly very different in degree from anything that has ever happened to the Coal Industry before." Gowers, E. A., Royal Commission on the Coal Industry (1925), *Minutes of Evidence*, First Day, p. 18.

⁴ *Colliery Guardian*, February 4, 1927, p. 274.

costs presented no problem to the British coal industry. There was no immediate necessity for keeping the mining plant up to the best current standards. There was no need to offset the disappearance of the better coal seams by the adoption of modern technique. As a result the standards of efficiency in the British mines failed to keep pace with the best engineering practices. And when, finally, abnormally favorable conditions disappeared in Great Britain's markets her coal industry found itself unable to adjust to new conditions. When prices collapsed there were only three alternatives immediately available; these were bankruptcy, wage cuts, and government subsidy.

In order to understand the events which led up to the British coal debacle it will be necessary to analyze the forces which brought the mining industry to the verge of bankruptcy. Such an analysis will be the aim of this chapter. Declining productivity and rising labor costs will be its ruling themes. Attention will accordingly be focussed upon waning resources and shorter hours with a view to measuring their influence upon the industry's output. Inasmuch as a backward mining technique made it difficult to mitigate at the crucial moment the burdens brought about by these factors, an appraisal of current mining practices must also find a place in the discussion. And, finally, since it was the decline in the demand for the industry's product which was the immediate occasion of the crisis, the analysis calls for a brief survey of the market conditions.

I. THE DECLINING OUTPUT

Great Britain's mines are old. Many of her coal fields have been worked commercially for several centuries. More than half of the total labor force of the entire industry is mining coal in workings that have passed the half century mark. There are active today 40 pits, each employing over 600 men, which were in operation when the American Union comprised but 15 states; and over 78,000 miners are today working in mines that are over 100 years old.⁵ Even the largest of Great Britain's mines would be considered old in terms of American standards. The 22 largest operations, each of which employs over 3,000 men, have an average age of 38 years, while the eleven pits that come second in terms of size—employing from 2,750 to 3,000 workers each—average 56 years. Taking all of the larger mines of the country together, that is, those with over 500 men on the payrolls, one gets an average age of 51 years.⁶

Under conditions such as these it is but natural that the cost of mining should go steadily upward. Coal is a waning resource and during the long life of the British collieries the better and more easily won reserves have been worked out. Deeper and thinner seams have had to be attacked. The tendency has been to go deeper to find a thicker seam or occasionally upward to work a thinner seam previously neglected.⁷ Consequently, pumping has become more and more costly; timbering has become more difficult and expensive; the problems of ventilation have

⁵ Royal Commission on the Coal Industry (1925), *Report*, Vol. III, p. 175.

⁶ *Ibid.*, p. 175.

⁷ *Ibid.*, Vol. I, p. 123.

become more acute; and the maintenance of underground transportation (haulage) more complicated and costly.

1. WANING RESOURCES

The proportion of coal coming from shallow seams is steadily decreasing. The percentage coming from depths of less than 1,500 feet has fallen from 81 to 77 during the past 12 years.⁸ About one-half of the coal mined today comes from seams that lie one-sixth of a mile or more below the surface; 60,000,000 tons, about 23 per cent, comes from depths of more than 1,500 feet; and some 1,500,000 tons comes from depths as great as 3,000 feet.⁹ In the future there will be pressure to resort to yet deeper workings.

To grasp the real significance of these facts one must contrast them with conditions in the United States where the depth of the average shaft is but 260 feet, or less than one-third of that in Great Britain. Indeed, virtually no American coal is raised from seams that lie 1,000 feet beneath the surface, the depth from which about one-half of Great Britain's coal now comes.

With the increased depth of working has come a decline in the output of coal from thick seams.¹⁰ Each year sees more of the British output coming from thinner seams. The 55 per cent of the coal which in 1913 came from seams four feet and more

⁸ *Ibid.*, p. 123.

⁹ *Ibid.*, Vol. III, p. 188.

¹⁰ In South Yorkshire and Nottinghamshire, to be sure, a large part of the output comes from fairly thick seams which lie at relatively great distances below the surface. The mining of these seams involves an immense outlay and therefore requires a scale of operation much larger than that which usually prevails.

in thickness had decreased to less than 51 per cent in 1924.¹¹ More than one-fifth of the output in the latter year came from seams 36 inches or less in height,¹² seams that are rarely considered commercially workable in the bituminous fields of America. Indeed the average thickness of bituminous seams worked in the United States is 64 inches, and over 40 per cent of the American output comes from seams which are at least six feet thick. British seams of this general character accounted for but 27 per cent of the 1924 output, and only 10 per cent came from seams that were actually more than six feet thick.¹³

The pressure toward deeper and thinner seams has for several decades seriously affected the output of the British miner. Even in the halcyon days prior to 1913 the effects of this pressure were evident to

¹¹ Royal Commission on the Coal Industry (1925), *Report*, Vol. I, p. 123.

¹² *Ibid.*, Vol. III, p. 184.

¹³ *Ibid.*, p. 184.

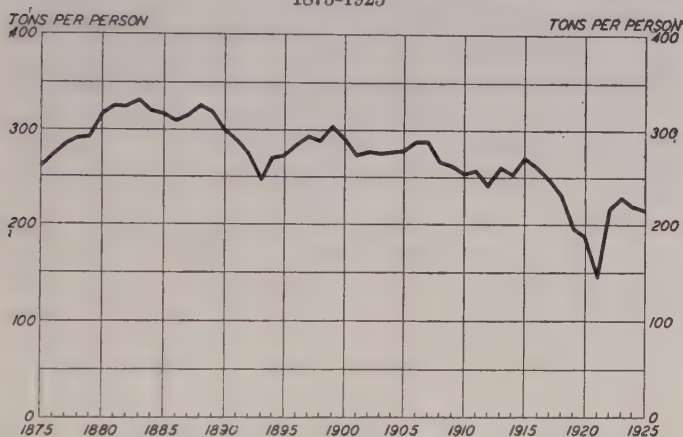
One may object, to be sure, that conditions in the American coal fields have little bearing upon the immediate situation in Great Britain or upon the future of the British coal trade. The real danger at the moment, it may be argued, is the competition of her Continental neighbors. And there is justification in such objection, for the cost of transportation to the seaboard that must be borne by American coal, as well as cost of shipping greater distances to overseas markets, absorbs the differential in costs between the two countries. The average cost of hauling coal from mine to port in the United States is \$2.75 as compared to about 50 cents in Great Britain. It has been estimated that Great Britain has an advantage over the United States in shipping costs even to Canada. Actual transportation costs from the British mines to the St. Lawrence ports are estimated to be as much as 75 cents less than from American mines. In the future, however, the growing tendency toward increasing costs in Great Britain will tend more and more to offset her advantages of location and she may have to contend with American coal to a larger extent than she does at present. See *The Statist*, Vol. 108, No. 2545, p. 1037.

the careful observer. They could be seen in the growing costs that had to be borne by the increasing production of the industry. The increase of the annual output by 62,000,000 tons during the first 13 years of the present century had necessitated the employment of 346,000 additional laborers¹⁴ and this, in terms of labor productivity, meant that it required an increase of 45 per cent in the number of workers to get a 27 per cent increase in output. The industry, in other words, had been working in a state of decreasing returns, and every additional increment of coal had meant a more than proportionate increase in the consumption of labor power.

This fall in output was the continuation of a tendency that had prevailed since the end of the eighties. The tendency had been well established when the eight-hour law was enacted in 1908 and this in spite of the fact that there had been little or no change in the hours of work in the 30 years preceding.¹⁵ The eight-hour act which reduced by 50 minutes the working day of all underground workers, other than hewers, did, to be sure, bring an additional decline in output, but its effect was primarily that of augmenting the prevailing drift. The decrease in production per man continued even after the shorter working shift was well established, and the succeeding years saw the output per worker go steadily downward. By 1913 the annual production per man had fallen to 59 tons less than the average for the decade ending 1888.

¹⁴ Royal Commission on the Coal Industry (1925), *Report*, Vol. III, p. 3.

¹⁵ Rowe, J. W. F., *Wages in the Coal Industry*, p. 115, London, 1923.

AVERAGE ANNUAL COAL PRODUCTION PER PERSON EMPLOYED,
1875-1925 *

* Sources of data: for 1875-1912, *Report of Coal Industry Commission*, Vol. III, p. 123, 1919; and for 1913-1925, *Report of the Royal Commission on the Coal Industry* (1925), Vol. III, p. 3.

Meanwhile, the production of the German, French, and Belgian miner remained virtually unchanged. The American miner during this period was increasing his output at a rate hitherto unknown. In contrast to the fall of 62 tons from the peak annual production per worker in Great Britain there had been a decrease of but 13 tons in Germany and France, and 15 tons in Belgium. The American miner had actually increased his yearly output by 100 tons.¹⁶ The German miners who, 50 years ago, had been individually producing but

¹⁶ Royal Commission on the Coal Industry (1925), *Report*, Vol. I, p. 127. The peak period of production per worker in Great Britain and Germany was the five years 1884-1888. In France and Belgium the peak period came ten years later, 1894-1898.

three-fourths as much coal as the British, were already on a par with the latter in the years 1909-1913; today they surpass them.

This tendency toward decreasing output cannot rightfully be attributed to any particular change in either the caliber or the attitude of the British miners or coal owners. The conditions under which the miner works "are such as to make deliberate restriction of output exceedingly unlikely." Impartial investigation has found no basis "for any general charge of 'ca'canny' against the men directly concerned with output."¹⁷ The miners, to be sure, were for the most part responsible for limiting the hours underground to eight per day and are thus in a measure responsible for the fall in output. Yet the very urgency of their demand for an eight-hour day was itself in part a result of the same forces that were causing the steady decline in output. Age had been changing physical conditions in the British mines in such ways as to make more difficult the

¹⁷ Royal Commission on the Coal Industry (1925), *Report*, Vol. I, p. 120.

As against the opinion expressed by individual owners and others, it is significant to note that among the numerous charges made against the miners by the Mining Association there was no charge of "ca'canny." The Royal Commission of 1925 found no evidences of a deliberate restriction of output and in its report it specifically states that "one does not find any evidence that persons working at the coal face restrict their output when they are at work." See Royal Commission on the Coal Industry (1925), *Report*, Vol. I, p. 120. This same opinion is held by Sir Richard Redmayne, formerly His Majesty's Chief Inspector of Mines and now a consulting mining engineer. When asked during examination by the Royal Commission whether in his opinion "there is generally among the miners a spirit of deliberate limitation of output, of working less than they could," he replied: "I honestly do not think that there is any organized restriction of output among the miners." *Ibid.*, Minutes of Evidence, Fifth Day, p. 158.

production of the required tonnage. These same changes were also making more arduous the work of the miner and the demand for the shorter working day was to a certain extent a recognition of their influence. It represented in part an attempt by the miner to secure relief from the growing difficulties with which he had to cope.

Unchecked by sufficient advance in technique and organization, and augmented by a further decrease in working time due to the seven-hour law of 1919, the difficulties of production continued to increase after the coming of peace. Accordingly, the annual output per worker fell in 1924 to a level 40 tons below even that of 1913; and in 1925 it was down by 43 tons. Indeed, the total production in 1924 was no larger than that of 1907, even though it represented the output of a labor force larger by 300,000 workers than that of the latter year.¹⁸ In 1925, output was 23,000,000 tons below that of 1907, and the number of laborers involved in its production was 160,000 larger.¹⁹ The position of the British coal industry in 1925, in short, was such that it required seven men to do the work which twelve years before had been done by six. Or, in other words, a greatly increased number of workers were required to produce less coal, not only per head but also collectively.

Another factor in the declining productivity of the British miner has been the increasing length of haulage distances in the mines. As a pit grows older the mine face advances. With this advance comes an increase in the distance from the shaft to the area

¹⁸ *Ibid.*, Lee, W. A., Minutes of Evidence, Twelfth Day, p. 370.

¹⁹ *Ibid.*

in which the coal is cut. Each additional yard of advance means an additional yard in the haulage of coal from the face to the shaft. Five generations of working may mean two, three, and even four miles of travel for each ton of coal before it sees the light of day. It may also mean an equal amount of trudging—in exceptional mines, riding—along the underground haulage roads each day before the miner gets to his working place and a similar journey after he finishes his day's work.

Such conditions have their effect upon the output of coal. They have taken tangible form in Great Britain in a steady decrease in the production of the men employed underground. More and more time is spent in traveling to and from the coal face. More energy is thus consumed in unproductive tasks. Increasingly large numbers of workers are required both to get the coal from the face and to maintain the haulage facilities to the shaft. The average distance from the shaft bottom to the face in the British mines is very close to one mile.²⁰ Some 6,000 miners have to travel more than two miles underground, usually on foot, before getting to their working places. Such a procedure requires in some instances as many as 60 and 70 minutes each way.²¹ If one were to average the time spent by the miner underground merely in traveling to the face and back he would find that some 45 minutes of each day is consumed in this manner. Indeed there is no district in Great Britain where the average time so consumed is less than 33 minutes.²²

²⁰ *Ibid.*, Vol. III, p. 314.

²¹ *Ibid.*, Vol. III, p. 314.

²² *Ibid.*, Vol. III, p. 314.

Longer haulage distances have meant more roof, road, and track to be kept in repair. Each year sees an increase in the proportion of the men used for maintenance work, and a growth in the relative amount of energy and attention given to work other than "coal getting." In 1905 for each 58 men at the coal face there were 42 other men underground to maintain the roof and the haulage.²³ Twenty years later the output of 58 men at the face required the services of 57 "off-hand" men, 15 more than in 1905.²⁴

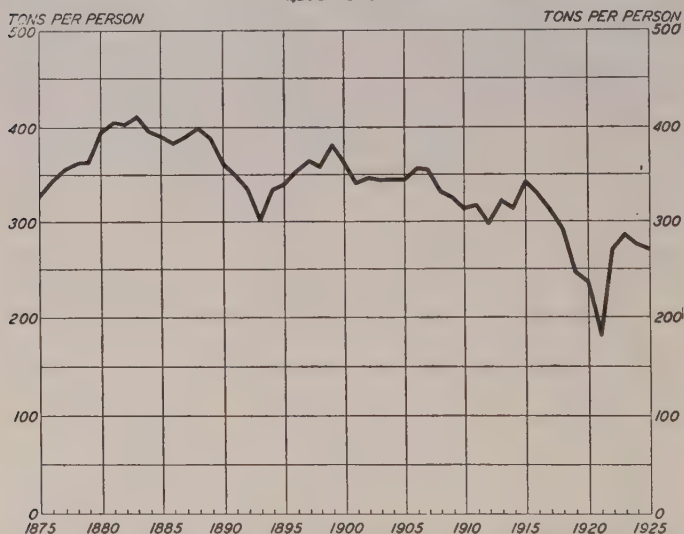
This growing consumption of time and labor has had very significant effects upon the output of the workers who are employed underground. From the eighties of last century onward there has been a marked decline in the underground miner's output. His average annual production of 394 tons for the five years ending 1883 fell to 357 tons in the decade following. By 1913, a most active year in the coal trade, it had fallen to 322 tons, and, with but two exceptions, it has remained below that figure ever since. Indeed, the average output

²³ *Ibid.*, Vol. I, p. 118. These so-called "off-hand" workers lay the track, keep roads in repair, keep the roof on haulage ways in safe condition, and do sundry other things that have to do with getting the coal from the face to the shaft bottom.

²⁴ In the bituminous field of the United States the ratio of men employed at the coal face to others underground is 61.4 to 24.4. Although this difference between the United States and Great Britain is partly accounted for by the fact that the proportion necessarily varies with the duties of the men at the face, that is, in some mines the men at the face perform auxiliary work such as timbering while in others this work is done by laborers specially detailed for the purpose, the principal cause of the diversity is the greater natural difficulties that prevail in the British mines. Tryon, F. G., and Schoenfeld, M. H., "Comparison of Physical Conditions in British and American Coal Mines," Reprint from *Coal and Coal Trade Journal*, 1926, p. 8.

in 1925 was even 16 per cent smaller than that of 1913 and averaged but 271 tons.²⁵

AVERAGE ANNUAL COAL PRODUCTION PER UNDERGROUND WORKER,
1875-1925 *



* Sources of data: for 1875-1912, *Report of Coal Industry Commission*, Vol. III, p. 123, 1919; and for 1913-1925, *Report of the Royal Commission on the Coal Industry (1925)*, Vol. III, p. 3.

²⁵ Royal Commission on the Coal Industry (1925), *Report*, Vol. III, p. 3.

The annual production of the underground worker is, to be sure, in large part a function of the regularity of his employment. One cannot without measuring the volume of employment make any valid comparison between any two single years. The fact remains, however, that the trend of production since the eighties has been steadily downward (see chart above). Indeed, an examination of the first eighteen years of the present century shows that the lowest annual output per man underground occurred during those years in which the industry worked the largest number of days.

Other evidences of the fact that the decrease in the annual production of the underground worker is due to factors other than

2. THE SHORTER WORKING DAY

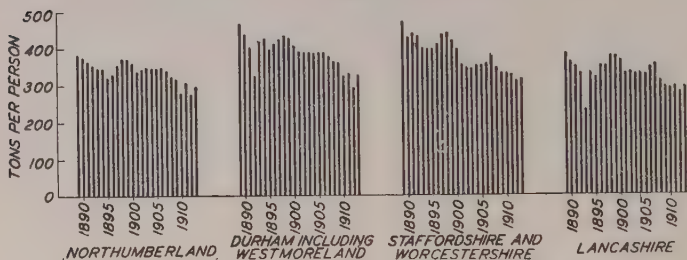
Some part of the decline in output is to be explained by the shortening of working hours in the British mines. Just how far the restriction of working time to seven hours is responsible for the decline is, however, a matter in dispute. One thing is certain, however; the changes in working time do not account for the larger proportion of the decreased production per man. The more important factor has been the growing age of the industry, a factor which becomes particularly evident when one considers the trend of production in the individual districts.

The tendency toward falling output was well marked in the older districts even before the Eight-Hour Law of 1908 cut some 50 minutes from the miner's working day. In Durham, where coal has been worked for almost 1,000 years, and where the upper seams are approaching exhaustion,²⁰ the decrease in the annual production per worker underground between the years 1889 and 1907—two years

the volume of employment can be secured from a perusal of his daily output. From data available for the years 1901-1918 one finds that during the first five years of the present century the underground workers produced about 1.5 tons per day. (Tons of 2,000 pounds. Tonnage figures used throughout are metric tons of 2,240 pounds unless otherwise stated.) Their output in 1901 was 1.50 tons and reached a maximum of 1.55 in 1905. After the latter year there was an almost uninterrupted decline, and in 1913, the banner year of Great Britain's coal industry, their production averaged but 1.28 tons. (See Adams, W. W., "A Miner's Yearly and Daily Output of Coal," U. S. Bureau of Mines, *Reports of Investigations*, July, 1920, pp. 4 and 9.) By 1918 it had fallen to 1.119, and evidences show no improvement for 1925. (See Gowers, E. A., Royal Commission on the Coal Industry (1925), *Minutes of Evidence*, First Day, p. 8.)

²⁰ Rowe, J. W. F., *Wages in the Coal Industry*. London, 1923, p. 17.

TONNAGE OF COAL RAISED PER YEAR PER PERSON UNDERGROUND
IN SELECTED DISTRICTS, 1889-1913 *



* Source of data: *Report of Coal Industry Commission* (1919), Vol. III, p. 123.

in which the coal industry was working more or less at capacity—approximated 89 tons. During the same period the production of the underground workers employed in the neighboring county of Northumberland fell by 44 tons. And in Lancashire, where few new pits have been sunk during the present century and where production now comes largely from extensions in pits that operated in the eighties, the production of the underground worker decreased by 31 tons. A similar tendency toward declining output underground prevailed in other old and smaller districts, the outstanding examples being Staffordshire and Worcestershire where the decline was 99 tons per man per year.²⁷

In contrast to these fields are the newer fields of Yorkshire and South Wales where the past generation has witnessed the opening of many new pits and the exploitation of new seams. These districts have more than doubled their output since 1889 and together they account for over 36 per cent of Great

²⁷ Coal Industry Commission, *Report*, Vol. III, p. 122 (1919).

TONNAGE OF COAL RAISED PER YEAR PER PERSON UNDERGROUND
IN SELECTED DISTRICTS, 1889-1913*



* Source of data: *Report of Coal Industry Commission* (1919), Vol. III, p. 123.

Britain's coal production. Although the growth of output in these two districts was accompanied by some fall in the average output of the miners who work underground, the decline was not nearly so great as that which prevailed in the older fields. Between the years 1889 and 1907 the decline in South Wales amounted to 20 tons per man; that is to say, the decrease was less than one-fourth of that which occurred in Durham and less than one-half of that in Northumberland. In Yorkshire the decline in output was 24 tons. Smaller fields like Derbyshire with many relatively new pits experienced an actual increase of 14 tons per man, while in Leicestershire, a fast-growing district, the increase in the output of the underground miners amounted to some 21 tons per year.²⁸ (See chart above.)

After the reduction of hours in 1908 the contrast between the older and the newer fields became even more exaggerated. By 1913 the fall in output in Durham had been augmented by an additional 63

²⁸ *Ibid.*, p. 122.

tons; to the decline in Lancashire had been added 39 tons. Northumberland experienced a further loss of 45 tons; Staffordshire and Worcestershire an additional loss of 62 tons. In the newer fields, on the other hand, Yorkshire experienced an additional decrease of but 13 tons, and South Wales of but 23 tons. In Derbyshire the loss was 34 tons; in Leicestershire, one ton.²⁹

The effect of the shorter working day was apparently much more serious in the older fields where, because of the disappearance of the better resources, the output of the underground labor force had in many of the pits already approached the limits of capacity. When the hours of labor were restricted many of the older collieries, some with a limited amount of coal and others with out-of-date shafts and haulage ways, found their existing equipment unequal to the demands of the new situation. Consequently their only alternative was the employment of more human energy with a resultant increase in labor costs.

II. THE BURDEN OF INCREASING WAGES

The physical changes wrought in the mines of Great Britain and the shortening of the working day affected the cost of coal mining to so large a degree that the industry could no longer meet competition in overseas markets. Undoubtedly, some of this competition could have been met, if those in charge of the industry had recognized the effects of the changes and made provision to counteract them. But it is also true that if labor had been willing, in view of the situation, to undergo certain

²⁹ *Ibid.*, p. 122.

sacrifices some partial temporary relief might have been obtained. Though the *annual* output per man was falling, the fact is that in terms of *hourly* production per man *at the face* it was actually increasing,³⁰ and a wage adjustment might have gone some little way toward overcoming the increasing costs. But from neither of these sources did help come. The economic drive which modern industry accepts as the primary stimulus to technological progress did not avail to force upon the owners any radical improvements in their industry. And labor, at the very moment when the tide of prosperity was turning, insisted upon and secured a wage increase.

The wage agreement of 1924 saddled upon the coal industry a new burden which seriously interfered with its ability to carry on. As has already been shown, the spring of 1924 witnessed a decline in export prices,³¹ a decline which in a short while made very serious the predicament of many of the mining districts. Before the summer was under way the two important districts of South Wales and Lancashire as well as the majority of the smaller districts found it difficult to pay even the prevailing minimum wage rates as fixed in the agreement of

³⁰ When measured in terms of the 1905 output the production of the men at the face shows an actual increase. Between 1905 and 1924 there were two statutory restrictions of hours, one in 1909 and one in 1919. These restrictions cut down the working time per face worker by approximately 18 per cent. During this same period, however, the face worker's output decreased by but 15 per cent, leaving a net increase in the actual output per hour at the face. This increase in output was, however, more than offset by the fall in the production of the other workers below ground. Though the average time underground for all workers decreased by 17 per cent the average output fell by more than 20 per cent. Royal Commission on the Coal Industry (1925), *Report*, Vol. I, pp. 119 and 266.

³¹ See p. 58.

1921. Despite this fact, however, the miners forced upon the industry a 10 per cent increase in minimum rates.³² Consequently the mines which were already operating at a loss found their operating costs materially increased, while those which had been operating on the margin of profitability found themselves producing their product at a deficit. Within a few months of the signing of the new wage agreement all the districts, except the Eastern Division and the unimportant Radstock area in Somerset, were in financial difficulties. By July, 1925, "the Eastern Division fell into line; everywhere the minimum wage had taken the place of the economic wage."³³

The various districts had reached the point where they were no longer self-sustaining. The wages paid to the miners during the last half of 1925 were in excess of what a large part of the industry could economically pay. That the low earnings of the miners lent much justification to their insistence upon a wage increase in 1924 cannot be questioned.³⁴ Subsequent events, however, proved that their demand could not have been made at a more inopportune time. Coming when it did, it made doubly difficult the already precarious position of the industry.

The miners had been instrumental also in increasing the cost of coal along lines other than wages. For decades they had been active in securing legislative and administrative regulation of coal mining

³² This increase, although agreed upon in the early summer, was retroactive to the first of May.

³³ Royal Commission on the Coal Industry (1925), *Report*. Vol. I, p. 147.

³⁴ See p. 145, footnote 38.

—regulation which had resulted in increasing the costs of the industry. Among their accomplishments were the shorter working day, the effects of which have been discussed, the elimination of the dangers of the pit, and payment of compensation to the injured.

Safety regulations which require the setting of timber at intervals of four feet and prohibit the use of electrical equipment such as the trolley locomotive add significantly to costs. Workmen's compensation which adds over \$15,000,000 a year, or as much as \$12 per miner employer, to the overhead of the industry means six cents for each ton of coal produced.³⁵ These factors, to be sure, mean physical and financial protection to the worker. And they have made the coal industry of Great Britain the safest in the world. In 50 years the deaths from accidents in Great Britain's mines have fallen from 2.57 per thousand men underground to 1.13 per thousand.³⁶ Surely this is a record to be proud of, particularly when compared to the fatal accident rates of 2.9 per thousand in the bituminous and 3.11 in the anthracite industry of America.³⁷ Likewise, the granting of accident compensation benefits which run up to 75 per cent of a worker's income is a step in social progress which might well be emulated in other countries.

This emphasis on human values has come about primarily because of the miner's activity. And who would deny that his health and safety have a claim to attention equal at least to any financial consid-

³⁵ Royal Commission on the Coal Industry (1925), *Report*, Vol. I, p. 197.

³⁶ *Ibid.*, p. 192.

³⁷ *Ibid.*, Vol. III, p. 243.

eration? Yet, one must not overlook the fact that safety and welfare laws have imposed upon the coal industry a considerable financial burden, and that they are a factor—although a small one—responsible for the difficulty in which coal mining now finds itself.

In spite, however, of its successes along the lines of wages, hours, and safety, labor felt itself in no position to make any sacrifices in the moment of the industry's need. Nor was it in a mood for making a generous gesture. The rank and file were genuinely dissatisfied with many of the conditions of their daily life and, urged on by their leaders, they refused, under the prevailing conditions, to consider the question of a wage revision. Although the miners' wages per shift had increased in about the same proportion as the cost of living since the five year period preceding 1914, their actual earnings, because of irregularity of employment, were appreciably below the pre-war level.³⁸ To be sure, the miners were receiving a daily wage rate as high as that paid to laborers in other industries. But their concern was with their total "real" earnings which frequently fell far short of those earned in the years preceding the war. They were dissatisfied on this

³⁸ A Court of Inquiry, appointed by the Ministry of Labor in 1924 to consider the question of wages in the coal industry, concluded that even during the prosperous period of 1923 and early 1924 the wages paid to day-workers were substantially less than the equivalent of their pre-war earnings. The same was true, they found, in regard to piece workers in certain collieries. *Report by a Court of Inquiry Concerning the Wage Position in the Coal Mining Industry*, 1924, Cmd. 2129, pp. 14-15.

A further inquiry made by a board appointed in July, 1925, came to the same conclusion as regards wages, even as increased by the agreement of 1924. *Report by a Court of Inquiry Concerning the Coal Mining Industry Dispute*, 1925, Cmd. 2478, p. 14.

account and saw no reason why they should allow their incomes to be further curtailed by a lowering of the wage rate.

The miners felt also that they were at times being cheated out of part of the little that they actually did earn. Many of the collieries are "captive" mines, that is, owned by other industrial organizations; many are affiliated with coking and sales undertakings.³⁹ Since wages are determined in part by the price obtained for a colliery's product, the miners have frequently felt that they were being deprived of a share of their just earnings by "transfer prices"⁴⁰ which charged coal to these affiliated organizations at prices lower than the market justified. They were unable to prove the existence of any deliberate fraud, but since they had repeatedly been refused the right to examine the books of the individual collieries⁴¹ they believed that they were not securing the full fruits of their labor.

And, finally, they asked why they should accept lower wages when the industry had sufficient resources to pay out each year in royalties an amount which was equal to two shillings (50 cents) per week for every miner employed. They resented this charge upon their earnings for the advantage of individuals who gave in return "neither work nor

³⁹ In some districts more than a third of the total output goes to associated undertakings. Royal Commission on the Coal Industry (1925), *Report*, Vol. I, p. 138.

⁴⁰ See p. 74, footnote 16.

⁴¹ The colliery accounts are examined by accountants who represent the miners as well as the owners and in this way a check is kept on transfer prices. But the accountants are prohibited from revealing to the miners anything other than a combined statement for an entire district. Such a statement does not show the prices received by any single colliery for its product.

enterprise" and they refused to make any sacrifice until royalties were eliminated.

Dissatisfaction with their conditions and the conviction that their lot could be improved only through the nationalization of the mines made the miners unwilling to render aid to the industry when it reached an impasse. Had the industry taken advantage of modern technological possibilities, had it been efficiently organized, had it been treated as a unit in the national economy rather than as an uncoördinated medley of individual undertakings each seeking its own ends, frequently at the expense of the others, it would never, in the miners' opinion, have fallen into its present precarious condition.⁴² And, indeed, there appears to be much truth in this contention.

III. THE BACKWARD STATE OF MINING TECHNIQUE

Modern technique and modern organization of the individual pits might have gone far toward overcoming the problem of costs in the British coal industry. It is true that Great Britain can boast of mines having the most modern machinery, but the fact remains that the larger portion of them are still employing an outworn technology. Not only are the machinery and haulage frequently out of date, but the general organization of many of the pits is of a character unfit to meet the needs of the present era.

⁴² "You talk about the practical present. You were talking about the practical present six years ago as a reason for doing nothing, and by your inaction you have helped to bring the industry to the present situation." Tawney, R. H., Royal Commission on the Coal Industry (1925), *Minutes of Evidence*, Thirty Third Day, p. 26.

Although the coal cutting machine found its birth in Great Britain's mines, its adoption has been so meager that but 19 per cent of the coal is today machine cut.⁴³ The coal cutting machines used in all the British mines number only about 7,000,⁴⁴ or less than one-third of the number used in the United States where some two-thirds of the bituminous coal is a machine-cut product. Natural conditions such as the cleavage of the coal, the nature of the roof, and the slope and pitch of the seams make it more difficult, to be sure, to use cutting machines in Great Britain than in the United States. And one should not perhaps look there for a development of machine mining comparable to that found in the United States. But in spite of the relatively unfavorable physical conditions there is opportunity in Great Britain for the employment of much more machinery than in the past. The argument that natural conditions make impossible the employment of machine mining on a large scale is not a new one in the British coal industry. It prevailed in 1913 when the industry was using 2,897 machines and producing 19,000,000 tons of machine-cut coal.⁴⁵ But when in the thinner seams of Scotland it became a question of survival, means were soon found which made the machine practicable. As a consequence the number of machines employed in Scotland grew from 867 to 1,628 in the eleven years ending 1924, and the percentage of machine-cut coal increased from 21.7 to 47.⁴⁶ Likewise in the older districts,

⁴³ *Ibid.*, Vol. III, p. 184.

⁴⁴ *Ibid.*, Williams, E., *Minutes of Evidence*, Thirty First Day, p. 29.

⁴⁵ *Ibid.*, Vol. III, p. 184.

⁴⁶ *Ibid.*, Vol. III, p. 184.

Durham for example, natural difficulties were quickly overcome under the spur of economic necessity and in 1924, 1,142 cutting machines, or more than three times as many as in 1913, were being used. The same situation prevailed in other districts and, natural conditions notwithstanding, the number of cutting machines in Great Britain increased by 135 per cent between 1913 and 1924, a growth which was much larger than that which took place in American mines.⁴⁷

The increased use of the cutting machine has been most marked in the thinner coal seams—which in many cases could not be commercially exploited if machinery were not used. These seams run from 12 to 48 inches in thickness, and one-third to one-half of the coal of this general height is machine cut.⁴⁸ In the thicker seams, however, relatively few cutting machines are employed, and as the coal becomes thicker the proportion of the machine-cut product grows progressively smaller.⁴⁹ Indeed, the machine-cut tonnage coming from seams of over 60 inches comprises but 10 per cent of the total so mined. Nor is it primarily the physical nature of the thicker seams that has caused this significant difference in the use of machines. Although many of the thicker seams lie at great depths where the overhead pressure is large, the roof and bottom conditions are not always worse in the thick seams than in the thin. Nor does thick coal lend itself less readily to machine cutting. In the American

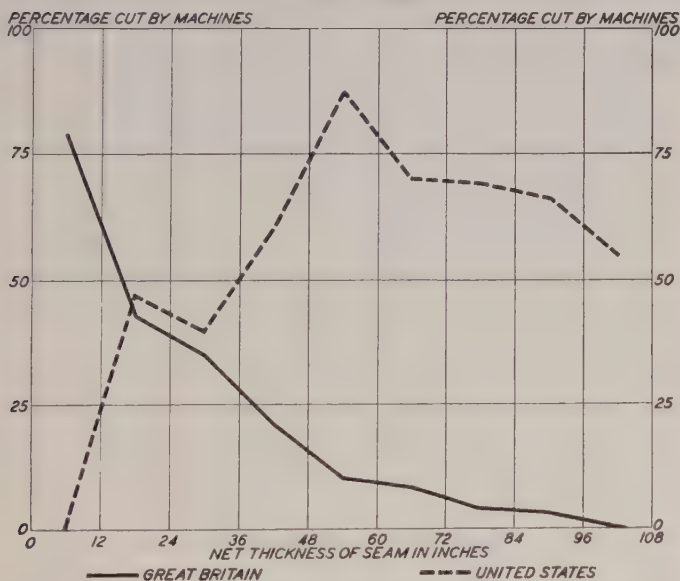
⁴⁷ *Ibid.*, Williams, E., *Minutes of Evidence*, Thirty First Day, p. 29.

⁴⁸ *Ibid.*, Vol. III, p. 184.

⁴⁹ *Ibid.*, Vol. III, p. 184.

coal mines the use of machinery is most general⁵⁰ in the seams five to six feet thick. Kentucky, Ohio, West Virginia, and Illinois, whose seams average well above 48 inches, undercut the greater part of their coal with machines. And it is in these same districts that the newer loading machines are being introduced.

USE OF CUTTING MACHINES IN GREAT BRITAIN AND THE UNITED STATES



Data for Great Britain, representing total output cut by machines, from Royal Commission on the Coal Industry (1925), *Report*, Vol. III, p. 184.

Data for United States, representing total output from mines two-thirds or more of whose product was cut by machines, computed from Table 12, *Report of United States Coal Commission*, Vol. III, p. 1890.

⁵⁰ *Report of the United States Coal Commission*, Vol. III, p. 1890.

The difference in the practice of the two countries can in large part be explained by the fact that the abnormal competition resulting from overcapacity in the American industry has forced the individual coal owner to adopt every possible means of lowering costs. Consequently he has been forced to adopt labor-saving machinery. And once machine methods have been applied they have further increased the industry's capacity and thereby exerted still greater pressure toward the additional employment of mechanical methods of mining. Consequently there has been a cumulative urge to the mechanization of mining. In Great Britain, on the other hand, machine mining has been applied primarily "to the exploitation of thin, hard seams which would otherwise not repay working."⁵¹ In the thicker seams where coal is more easily mined, economic pressure has not until recently been sufficiently acute to cause the industry to make the capital outlay and undertake the physical reorganization necessary to the adoption of machines. It has not necessarily been a question of physical difficulties. These have frequently been and can again be overcome. Nor has labor presented any formidable obstacle to the manager who "seriously wishes to try machinery."⁵² The essential factor has been the attitude of a large proportion of British owners who have seen no need for a change⁵³ in their methods. The older ways

⁵¹ Royal Commission on the Coal Industry (1925), *Report*, Vol. I, p. 122.

⁵² *Ibid.*, p. 122.

⁵³ It is of interest to note that as far back as 1901 the greater use of coal cutting machinery in the American mines was the subject of comment in the British mining fraternity. See *Colliery Guardian*, August 2, 1901, and later numbers for that year for a

were paying. Why not, then, leave well enough alone? If adjustments were necessary, they would come in due time. And the owners justified their policies by the conviction that it would be useless to push mechanization too rapidly. Despite the experience of other countries, they were convinced that "progress must necessarily be slow." And this must be so if for no other reason than "the time taken to train the personnel in the operations necessary for successful machine mining."⁵⁴

A goodly number of the British mines could also have profited immensely by improvements in their haulage systems. Indeed, antiquated haulage systems have imperiled the advance of the mechanical cutter, whose success or failure is frequently dependent upon the speed with which the coal is sent to the tippie. Many a pit is employing haulage methods generally discarded in the last century. Hundreds of them still employ old-fashioned methods of handling tubs at the shaft bottom which require that each tub be individually uncoupled and pushed some little distance by a boy before it reaches the cage. Secondary haulage, that is, conveying tubs from the working place to the sidings, is still in many cases accomplished by human brawn—by boys called "putters" and "trammers." Under certain conditions, to be sure, hand haulage is most economical, "but it seems unwarranted that hand haulage operations should be carried out over such distances as 660 yards"—more than one-third of a mile. Nor is it

valuable discussion of the use of coal cutting machinery in the two countries.

⁵⁴ *Ibid.*, *Minutes of Evidence*, Thirty First Day, p. 27.

generally economical to have men handling tubs for distances of 300 or 400 yards.⁵⁵ When putters are not employed, the pony is still the main source of power for secondary haulage in the largest proportion of the pits.⁵⁶ For the main haulage—transporting the tubs to the shaft—ropes kept in motion by steam, electrical or compressed air power are generally used. But here, too, the pit pony has not yet been entirely replaced. Rope haulage, to be sure, is highly efficient where road gradients are heavy. But many a pit is working seams sufficiently flat to make the modern electric locomotive a workable proposition. Although there is good reason to believe that the electrical regulations could safely be modified to permit of high tension transmission⁵⁷ and the use of approved types of trolley locomotives in non-gaseous mines, this type of haulage, generally used in the United States, is virtually non-existent in Great Britain.

Likewise the storage battery locomotive, which has been used so successfully in the gaseous mines of other countries, is hardly ever seen in the British

⁵⁵ *Ibid.*, Vol. I, p. 274.

⁵⁶ "There is evidence . . . that tub shortages have resulted from causes inherent to the employment of horses, which would have been avoided, and subsequently were avoided, by the use of mechanical haulage." "Mechanical haulage is not necessarily the most economical under all circumstances, and there is evidence that horse haulage is being economically used over distances normally best suited to mechanical haulage. On the other hand, there is evidence of the advancement of mechanical haulage facilities being too long deferred and the capacity margin of such facilities being too small to allow for interruptions in the haulage service." Royal Commission on the Coal Industry (1925), *Report*, Vol. I, pp. 272-274.

⁵⁷ Redmayne, Sir R. A. S., *ibid.*, *Minutes of Evidence*, Fifth Day, p. 149.

mines. Indeed, until quite recently the storage battery locomotives in all of Great Britain numbered but twelve.⁵⁸ Consequently, the haulage systems of the British pits usually lack the flexibility attainable with the electric locomotive. And this in spite of the fact that the haulage system is the most vital factor in the organization of a pit. Faulty haulage, more than any other deficiency, interferes with the regularity of a colliery's output. A derailment means tying up the entire haulage system and it is no rare thing with rope haulage to have every "tram" on the main road stopped because a single tub has left the track.

Modernized haulage will necessitate, however, more than a mere change in methods of propulsion. Pigmy tubs of 300, 500, and 1,000 pound capacity will eventually have to be replaced by two, three and four ton "wagons."⁵⁹ These and modern electric locomotives require in turn good roadways and heavy rails. They will require too the elimination of the small six-to-eight foot shafts with their small cages, light working loads, and antiquated or insufficient winding equipment which limit the output of many an otherwise fairly efficient operation.⁶⁰

⁵⁸ *Annual Report of H. M. Chief Inspector of Mines for Year Ending 31 December, 1922*, p. 47.

⁵⁹ "With two 2-ton wagons, a single-decked cage brings up four tons of coal at a wind and no movement of the cage is needed to unload the wagons. For a smaller load with ten cwt. tubs, eight of them would be required and a cage with two or more decks, requiring more time for unloading the tubs and adding much to the dead weight to be lifted." See Buhlman, A. F., and Redmayne, Sir R. A. S., *Colliery Working and Management*, London, 1925, p. 334.

⁶⁰ Mottram, T. H., Coal Industry Commission, *Minutes of Evidence*, First Stage, Vol. I, p. 100, 1919. Mr. Mottram, one-time Divisional Inspector of Mines for the Yorkshire and North Mid-

There are districts today with outputs running into 1,000,000 tons a year where double winding shafts are virtually unknown, where adequate pumping facilities are the exception rather than the rule, and where antiquated hauling is all too frequent.⁶¹ Pits with haulage systems haphazardly organized, with tubs of varying size, with roads ill-kept, are everywhere to be seen. To find that the work at the face has been stopped and activity at the tippie disorganized because of the failure to provide systematically for the distribution of rails, timber, and other supplies to meet the expected needs of the miner is no rare discovery.⁶² Indeed only the exceptional mine has an underground transportation system with standardized equipment which is so related to the

land Division and later H. M. Chief Inspector of Mines, when examined by the Coal Industry Commission of 1919, testified that probably one-third of the collieries in his district had "modern, up-to-date plants," that is, plants with efficient winding machines, shafts of considerable capacity, and cages holding a considerable number of men and admitting of rapid winding. It is of interest also to note that the first electrical winder in South Yorkshire was only installed as recently as 1924. *Manchester Guardian Commercial*, October 9, 1924, p. 421.

⁶¹ Rowe, J. W. F., *Wages in the Coal Industry*, London, 1923, p. 31.

The coal industry today consumes some 16,000,000 tons of coal each year in the generation of power for winding, pumping, hauling, and ventilating purposes. "It is safe to say that the same power could be produced in a large modern station by one-fifth of this quantity of coal." Merz, C. H., *Coal Industry Commission Minutes of Evidence*, Vol. 15, p. 762, 1919.

A prominent member of the engineering profession recently brought to the attention of the authors a small colliery which consumed each day one-third of its daily production of coal in the mere raising of its output from the shaft bottom to the tippie. This colliery was using a winding engine of a type long considered antiquated. The colliery, incidentally, was closed down recently.

⁶² Royal Commission on the Coal Industry (1925), *Report*, Vol. III, pp. 352-359.

capacity of the pit⁶³ as to make available, without unnecessary delay, at each working place the tubs necessary for the output of the miner.⁶⁴

⁶³ The planlessness of the haulage systems employed in coal mines has long been the subject of criticism by the engineering fraternities of every coal-producing country. That general haulage conditions in the United States are frequently as bad as those of any other country is evidenced by recent investigations into the state of underground mine transportation.

"Underground haulage is the circulation system of the mine. Upon the proper delivery of pit or mine cars to the miner depends his ability to do a good day's work. Moreover the supply of coal to the tippie for shipment is also dependent upon the haulage. Though the general schemes of transportation and trackage are fairly well planned, in the actual operation of the mine the whole control of transportation is almost universally in the hands of the assistant foreman or face boss, or still oftener is handled at the will of the man driving a mule or a gathering locomotive. . . ."

"Whether the problem is simple or not, as compared with that of the movement of material in other industries, underground haulage cannot be expected to run itself and this is practically the way in which the transportation in the majority of mines visited was being performed, notwithstanding the fact that these mines were among the best in the various regions studied. Generally the foreman is not equipped by training to handle transportation systematically. Even when he has the training it is of but little use, for he cannot spare sufficient time from his other duties to direct haulage properly." *Report of the United States Coal Commission, Part III, 1925, pp. 1919-1920. (Italics are authors'.)*

See Hamilton, W. H., and Wright, H., *The Case of Bituminous Coal* (Investigations in Industry and Labor, Institute of Economics, 1925), p. 111; Norman, Fred., "Standardization of Underground Transportation from the Standpoint of the Operator," *Coal Mine Management*, August, 1923, pp. 56-57.

⁶⁴ "There is evidence: (1) that actual shortage in the number of tubs available existed in a few instances; (2) that tub shortages have resulted from causes inherent to the employment of horses, which would have been avoided, and subsequently were avoided, by the use of mechanical haulage; (3) that the advancement of mechanical haulage appliances nearer to the coal face has resulted in a better supply of tubs; (4) that bad roads have hindered the proper transport of tubs to the face. . . . The owners contend that in most cases the workmen have other work to do which normally keeps them fully employed until empty tubs are available. There is evidence, however, that such is not always the fact.

Too many of the practices employed in the British mines belong to by-gone days. They have been relegated to the discard in the more advanced collieries of the country where organized planning and the installation of machinery have brought great economies in the consumption of labor. The economies which might have been obtained from the application of modernized technique could not, to be sure, entirely have offset the rising production costs which followed on the trail of waning resources and increasing labor charges. When as much as two-thirds of an industry's outlay consists of labor costs it is almost impossible to introduce means completely to offset wage increases. Moreover, the investment required to overcome the difficulties created by the disappearance of the better resources has been and still is far beyond the financial capacity of many an undertaking. Because of their age the modernization of many of the mines, is from a financial viewpoint, impracticable. The original layout of some mines makes them ill-adapted to change. The limited amount of coal left to be mined in others makes the adaptation to new conditions a financial burden greater than the benefits to be derived. Had outworn practices been eliminated in a larger proportion of the collieries, however, increasing production costs could have been offset to an appreciable

"It is clear from the evidence that steps are not always taken to ensure a supply of empty tubs for all workmen at the commencement of the day shift; but that arrangements are made at some mines whereby the winding shafts are kept as near to their capacity limit as possible. This practice can conceivably, and does, result in a certain amount of temporary shortage, which, however, would not appear seriously to affect the total output." Royal Commission on the Coal Industry (1925), *Report*, Vol. I, pp. 272-273.

extent. There are many instances, "in which a well-directed effort, made by experienced men, who commanded sufficient financial resources, would succeed in placing the older mines on a different footing, and would give them a new lease on life."⁶⁵

Faced by changing physical conditions, the British coal industry made but little attempt to forestall an increase in its production costs by technical changes.⁶⁶ Convinced that their mining equipment must be built for permanency,⁶⁷ the colliery owners continued to construct equipment that would last 100 years and be obsolete in ten.⁶⁸ The industry had flourished under the arrangements of the past, and the conviction that such difficulties as might arise would be but minor and temporary, forestalled any serious attempt to change those arrangements.

⁶⁵ Royal Commission on the Coal Industry (1925), *Report*, Vol. I, p. 49.

⁶⁶ It is of interest to note that the American anthracite industry has for a generation been suffering from physical difficulties similar to those which have prevailed in the British mines. The better resources are being fast exploited, and the tendency toward declining output per worker has been well marked. The industry is definitely in the stage of decreasing returns. The industry has, however, seriously attacked the new difficulties which face it and by the improvement of its practices it has succeeded in keeping the output of its workers up to around two tons per day worked, as compared with 2.4 tons (net tons of 2,000 pounds) in 1900. That is to say, in spite of the more difficult working conditions the average tonnage per worker declined by only four-tenths of a ton per day. "Production of Anthracite and Bituminous Coal and Beehive Coke," *Weekly Coal Report*, Bureau of Mines, U. S. Department of Commerce, No. 508, April 7, 1927, p. 4.

⁶⁷ Coal Industry Commission, *Minutes of Evidence*, First Stage, Vol. I, p. 234, 1919.

⁶⁸ It is of interest to note that a managing director of a large colliery recently gloried in the fact that his colliery was seventy years old and still had machinery in operation which was installed when the pit was first opened. *Colliery Guardian*, Jan. 23, 1925, p. 230.

IV. THE DISAPPEARING MARKET

When difficulties appeared they proved to be neither minor nor temporary. In 1925 Great Britain found that her sales abroad had fallen 20,000,000 tons below those of the average for the five years preceding 1914. As compared with the pre-war period, her coal exports had, in other words, decreased by 22 per cent.⁶⁹ Shipments to Germany showed a decline of almost 5,000,000 tons—over 50 per cent; sales to Italy were 2,244,000 tons or 23 per cent smaller; South American purchases were down by 2,217,000 tons, that is, 33 per cent.⁷⁰ Virtually all of Great Britain's important customers were using less British coal than in the years 1909-1913. As compared with the single year 1913, they had curtailed their purchases by approximately one-third.⁷¹ Meanwhile the world's navies and merchant marines had also decreased their consumption of British coal by over 17 per cent, with the consequence that bunker sales had fallen by some 3,000,000 tons.⁷² So, too, the larger coal consuming industries in Britain had added to the stringency of the situation by curtailing their demand for fuel to 5,000,000 tons less than in the pre-war years.⁷³ All in all, the coal industry found itself confronted with a market some 28,000,000 tons smaller than it had equipped itself to serve before the World War.

An industry geared to the requirements of the pre-war market found itself in 1925 encumbered with many unnecessary and obsolete mines and with an oversupply of labor. The effects of waning re-

⁶⁹ Royal Commission on the Coal Industry (1925), *Report*, Vol. III, p. 3.

⁷⁰ *Ibid.*, Vol. I, p. 5.

⁷¹ *Ibid.*, Vol. III, p. 3.

⁷² *Ibid.*, Vol. I, p. 13.

⁷³ *Ibid.*, Vol. III, p. 3.

sources, declining labor output, and increasing labor costs which had been more than offset by the profitability of the industry during the preceding generations of growth, became everywhere apparent. So, also there became evident the need for a renaissance of technique to overcome the high costs which resulted from these factors.

Partly because of its rapid growth and partly because of technological innovations in other countries, the British coal industry failed to fit into the new setting of the third decade of the twentieth century. So long as it remained "the spoiled favorite of fortune" with "wealth washed to its shores by the mere tide of economic expansion"⁷⁴ it was unnecessary to seek a remedy for the difficulties wrought by disappearing resources and increasing labor costs. Obsolescence gave rise to no marked advantages on the part of its competitors. Unlike the British Navy, the coal industry was not dependent upon continual improvement and perfection for its survival. To the Navy, obsolescence meant a potential competitive advantage to a possible enemy. Indeed, survival was dependent upon the constant discarding of out-of-date equipment and organization and the maintenance of the naval establishment in a state of maximum efficiency.⁷⁵ But coal mining was a "sheltered industry." The world needed

⁷⁴ Tawney, R. H., "Reorganizing the Mines," *The Manchester Guardian Weekly*, June 11, 1926, p. 437.

⁷⁵ See Veblen, T. B., *Imperial Germany and the Industrial Revolution*, New York, 1918, p. 127.

British coal. It had been willing in the past to come to England for its supplies and to pay liberally for them. And the coal owner saw no reason why it should not continue to do so in the future. With existing organization and equipment his industry had flourished beyond any other in Great Britain. Why then go to the expense and trouble of remaking it?

CHAPTER VII

THE MINE OWNER'S TRADITION

The logic of events in the mining industry cannot be understood merely as the play of economic forces. When one approaches the industry with a view to the framing of a working policy, it becomes a group, or rather many groups, of persons bound together and held apart by opinions which agree and disagree with each other. From the human point of view the immediate fact to be dealt with is this confusion of conflicting demands within the industry, each compelling in itself, each representing a genuine interest, yet thoroughly unreconciled to one another. The essential problem is that of thinking one's way through these confusions into an understanding of the situation as a whole. For a government concerned with the national necessity of securing efficient working of the mines, the primary question is that of finding some way of bringing these groups into working agreement. And for any one who studies the question the problem of first importance must be that of understanding the different interpretations of the situation made by different groups, in such a way as to give to each its proper recognition.

This chapter and the one following attempt to explore something of the cleavage of opinion between

the owners and the miners. This is the more justified because current discussions of the problem emphasize the irreconcilable programs of the two groups and tend to ignore altogether the background and presuppositions from which differences of policy inevitably spring. The mine owners believe in the validity and efficiency of private enterprise as a method of carrying on the industry. They stress the importance of the profit motive and praise it as a driving force. They consistently oppose legislative "interference," and believe that if left to the play of economic forces the industry will heal itself. They believe that since the industry is "governed by economic necessities from which there is no escape," longer hours and lower wages are the price that must be paid for prosperity. And the miners oppose them in respect to each of these contentions.

The primary question for the understanding of this cleavage is: How does it happen that two groups of men caught by the same difficulties, and having available the same facts should come to such radically different interpretations and conclusions in regard to a situation?

The answer commonly given to this question is that men think as self-interest dictates. According to this explanation the miners press for nationalization because it will better serve their purposes than the present arrangements and the mine owners press for longer hours and lower wages, in order that they, the mine owners, may prosper. And in both cases they justify their self-interest by trying to show that the panacea which they recommend will serve most efficiently the interests of the nation

as a whole. Such an explanation is, as a matter of fact, far too simple. The principle of self-interest has never done more than to substitute a blanket phrase for the rich interplay of all the elements of experience within an individual.

It would be far more true to say that in a broad sense men's opinions are determined by their functional activities, and that the common basis for action in each group is determined by the occupation in which they all share. But this does not mean that groups think of their occupation as serving their interest alone. On some basis or other, men regard their work as contributing to the broader welfare of the community, or the state. It is within this wider scheme of ideas, presuppositions, and arrangements that men look for the justification of their occupation. And failing to share the total background of those who think in different terms they can only deduce self-interest as the dominating motive of their opponents.

Anyone who has followed the mining situation knows that both mine owners and miners appeal to what is for them an objective basis of fact for their judgments and their plans. Within the scheme which each group accepts they see that it is their duty to carry on certain activities and conserve certain interests. For them their scheme is right not only because they have a place in it but because others have a place in it as well. To call this merely self-interest is as blind as calling all acts selfish because they must perforce proceed from a self—a familiar type of verbal jugglery.

If it be asked how men come into such different

attitudes and presuppositions about the world they live in, how from a given situation they can draw such startlingly different conclusions, we must remember how different are the habits of thought established within an occupation for each group. Every man knows his own work with distinctness; the facts and principles underlying the daily routine stand out with vividness in contrast to the rest of the world which is less clearly perceived and more vaguely construed in terms of hazy generalities. The owners who direct an enterprise, determine its relations with other businesses, fit it into the scheme of financial and administrative relations, not only see their responsibility with a clarity which is quite lacking for the miners and the public, but interpret the wider world in terms of their own activities. And the workers who have no responsibility for the making of decisions, who merely perform so many hours of work for so much pay, must inevitably tend to think in terms of the living that their pay envelope affords and the conditions under which it was earned. And their questions about the world will be conditioned by these dominating interests. In other words "men's minds are what they mind." And the coal owners and the miners have been minding very different things for generations. It is not curious that they see different pictures; it would be curious if they saw the same.

I. THE PROUD POSITION OF EARLY BRITISH MINE OWNERS

What then, have the British colliery owners been "minding"? They have, for the most part been

minding their business, a business as ancient and honorable as any in Britain. They have been at the very heart of England's economic development—indeed of her empire building. Their forefathers owned the coal with which the Industrial Revolution was fought; they were associated with the epoch-making inventions of the late eighteenth and the nineteenth centuries. They watched their coal burn in the first steam engine and locomotive and saw the smelting of the first iron which was to pave the way for the machine age. They met the problems of their own industry with valor and determination; if the risk of life was great, the stake was England's position as a world power. Commenting on a statement that "under state control the dangerous mines could be shut down," it was recently pointed out by the coal owners that, "Had our forebears been men of this mould they would have withdrawn their primitive pumps as soon as gas began to make its appearance in the deepening mines, and resigned themselves to scratching the surface for the mineral wealth which lay beneath their leaseholds. Sir Humphry Davy and George Stephenson would have laboured in vain, and the nation would never have been other than a fourth-rate power."¹

To rescue England from the ignominy of being a "fourth-rate power" was the high task of coal—and of the colliery owners. The destiny of the nation was not in the hands of its statesmen but in those of its coal owners.² It was primarily through

¹ *Colliery Guardian*, April 9, 1925, p. 895.

² Quoted from Professor Tyndall, by Jevons, W. S., *The Coal Question*, p. xvii.

coal that Britain found the way to the leadership of modern industrial civilization. The consciousness of the great rôle which his industry has played has inevitably been present as a background of the owner's mind and has been a fertile source of principles and beliefs.

II. THE BACKGROUND OF ECONOMIC BELIEF

Coincident with the great period of this industrial adventure there grew, as we know, a body of doctrine in the terms of which the changes and developments in the economic order came largely to be explained. While the miners were fighting for protective legislation, the owners were becoming versed in the economic philosophy of the ruling and educated class. The mine owners belonged to the group who formed the English oligarchy, "an oligarchy so free from misgiving about its capacity for government that it resented even the smallest abatement of its control."³ Such confidence was explicitly based upon the acceptance of and a belief in a scheme of society held together by laws analogous to those which had been recently discovered in the world of nature. Parliamentary debates ran in terms of trade and industry "finding their own level," "of wages tending toward a natural price," of the far-reaching benefits of the increase of capital, and chiefly of the law of supply and demand where interference would cause irreparable damage. The key to this beneficent scheme lay in the perfect freedom of individuals whose self-interest could be trusted to work for the good of all, and indeed could be trusted so far that no special care was needed even for the protection

³ Hammond, J. L., and B., *The Town Labourer*, p. 324.

of women and children. Individual freedom, it seemed, was responsible for releasing the energies of mankind and creating the unprecedented accumulation of wealth which man wonderingly saw around him and which he unhesitatingly read as an increase of general welfare. Economists, manufacturers, statesmen, and even workers, joined hands in support of these doctrines.

It was with these intellectual weapons that the mine owners fought against the first humanitarian legislation for those who worked in the pits. One need not draw again the pictures of the early mining conditions—the maimed children working from sunrise to sunset, women strapped and chained crawling along the pit bottom or struggling up the ladders with heavy baskets, men working 14 hours a day in poisonous air, drenched with water—all facing the day when an explosion or a flood would put an end to their toil—“without enquiry or record.”⁴ In the face of these conditions the dialectic of the day has a curious and yet familiar sound. High-minded members of the House of Lords, warning against legislative interference with the “system” pointed out that without the work of children the mines would have to close, that the exclusion of women “must add to the distress already existing among them”;⁵ that compulsory education for boys would injure the interest of mine owners to the final detriment of the workers themselves; that the proposed principle of government inspection was a “useless and mischievous prying into the affairs of private individuals” as well as “an unjustifiable

⁴ Boyd, Nelson, *Coal Pits and Pitmen*, London, 1895, p. 66.

⁵ *Ibid.*, p. 104.

interference with the rights of labor,"⁶ and that combination among workers was vicious because it violated the "natural operation" of economic law.

Nothing is more revealing of the mind of the owner and the group he represents than the point of view from which he has constantly resisted encroachments on private initiative both by legislation and by successive advances of trade unionism. Now and then some owner has staunchly supported a government measure, but on the whole, whenever new legislation has been proposed that plea has been, and still is, that "the time is not ripe," "the cost will be ruinous," "the workers will suffer," and that the industry at the particular moment has had as much "grandmotherly legislation" as it can stand. In 1886 when an amendment to the Coal Mines Regulation Act was under discussion it was maintained that to "enhance the cost of production by vexatious legislation is proved not to be the way to advance the interests even of labor, which will lose its bread."⁷ Apropos of workman's compensation the Mining Association asserted that if the Bill were adopted, "it will be little less than disastrous to the interests both of labour and capital."⁸ Moreover, "owners and miners can be safely trusted to make their own arrangements for compensating injured workmen."⁹ The introduction of the eight-hour

⁶ *Ibid.*, p. 148.

⁷ *Colliery Guardian*, April 30, 1886, p. 700. Of another clause in the Bill the editor pointed out that "owners will have at once perceived with satisfaction that the agitation for the prevention of female labour at the pit head has failed."

⁸ *Colliery Guardian*, July 23, 1897, p. 162.

⁹ *Ibid.*, April 2, 1897, p. 634.

day was long challenged on the ground that it was a step that "the labor interest would regret for years to come," and "that would cripple the great productive industries of the country."¹⁰ On the score of health an owner said "he should like to ask whether the present generation were any stronger than their fathers."¹¹ And finally, the miners "were quite able to take care of themselves."¹² Many of the provisions of the Coal Mines Act of 1911 were found dangerous or futile. The exclusion of an owner or his agent from the actual management of the mine unless he were qualified to be a manager was a dangerous principle. "That an owner must not have control over his own property was a monstrous state of things."¹³ In Committee it was said that "they were bound to consider the *natural rights* of the man who was providing the money, to say how the mine should be carried on." The Minimum Wage Act of 1912 was "economically unsound in principle and unworkable in practice,"¹⁴ and in the House of Lords it was declared that "in the long run no government could suspend economic laws."¹⁵

It must not be forgotten that on both sides of the mining controversy the points of view are to a large extent traditional and hereditary. In an industry as old as the coal industry it is not strange that this

¹⁰ *Ibid.*, June 5, 1908, p. 1080.

¹¹ *Ibid.*, June 26, 1908, p. 1210; Question from Mr. Lupton, mine owner.

¹² *Ibid.*, December 18, 1908, p. 1220.

¹³ *Ibid.*, May 5, 1911, p. 896. Italics are authors'.

¹⁴ *Ibid.*, March 15, 1912, p. 543; statement by Scottish coal owners.

¹⁵ *Ibid.*, March 29, 1912, p. 638.

should be so. It is a striking fact that a very large proportion of British mine owners have come from coal-owning families some of which have possessed mines for generations. In the more fluid society of newer communities, particularly in America, where men pass easily from one industry to another as opportunity offers, one finds not a few who at some stage of the process have taken risks in coal mining. Not only in America is the turnover high among business men, but there is a vertical as well as a horizontal mobility. The mine owner of today may have been the manager of yesterday and the pitman of a few years ago. While the early coal pioneers of England often started life humbly, today, for reasons both geological and social, mining has become a venture for the few with surplus capital. One looks in vain for a former miner sitting in the councils of the Mining Association, or for a group of owners talking of the early years when they worked in the pit. The British coal owners of this generation have for the most part entered into a tradition of ownership, a tradition into which has gone much of the *noblesse oblige* and some of the blindness characteristic of those who accept responsibilities from an earlier generation. There are involved, moreover, loyalties of a kind—loyalty to the class to which one belongs, to the group of fellow industrialists to whom one is bound by common problems and interests. Highly individualistic as are the owners, they accept for the most part the assumptions of their craft. Individuals among them may refuse to join the Mining Association or in other ways to associate themselves for common action. They may dissent

from the majority opinion. But few go so far as persistently to question their rôle in the scheme of things.

There is, moreover, an inheritance and fostering of craft tradition as strong in mining as in any other industry. Although colliery owners are now acquiring wider and wider interests both in coal fields and in allied industries, there has been and still is a large amount of pride and interest in local achievement. An owner points to the growth of his business, to the special quality of coal raised in his colliery, to the tradition of cordial relations with workers, to the good houses, gardens, pit baths, or social and educational facilities which have been made available; he can remember when this or that safety device or new method of working was introduced ahead of all other collieries, and when a new shaft was sunk at great risk and expense. The history of every large mine owner in England gives evidence of some outstanding achievement of private enterprise. Yet it has never been settled whether the handing down of craft tradition from father to son creates solid understanding or whether under such circumstances the dead hand of custom lays too heavy a hold upon the present.

III. THE CURRENT ECONOMIC CREED

The mine owners must be recognized, then, as among the most successful protagonists of a policy which has found expression in the industrial life of Great Britain. They have, by inheritance and social connections come into certain political, economic, and craft traditions. They have, like other men,

adjusted themselves to the times, but they have retained their essential philosophy of thought in a changing world. Indeed, as one studies the mine owners *précis* and memoranda before numerous recent commissions or reads the speeches and letters of representative mine owners, one is struck by the virtual identity of the earlier and the current economic creed. This creed, however, is not peculiar to themselves. It is accepted by many groups of varying political faiths in England and in other countries.

The mine owners, it is true, have accepted wide modifications of industrial procedure. Specific measures which once aroused passionate protest have long been taken for granted. The mine owners of today do not argue that "some seams of coal require the employment of women."¹⁶ They would refuse to be party to a scheme of "bonding" men such as was common in the early days. They would not ask workers to stay 14 hours in a pit, nor pay them in anything but the coin of the realm. These archaisms have been outgrown. The mine owner of today accepts a host of regulations which his forebears would have found oppressive and tyrannous. He has submitted to a long and detailed safety code with penalties for offense, full provision for government inspection, workman's compensation, various other forms of insurance, wage regulation, even a welfare levy, to say nothing of enforced attendance and submission of documents before a commission. Would this not seem "the socialistic state" to one who in 1842 announced that as a colliery proprietor he would say to a government inspector, "you may go down

¹⁷ Boyd, Nelson, *Coal Pits and Pitmen*, London, 1895, p. 107.

the pit how you can and when you are down you may remain there.”¹⁷ And what would he think of employers who not only conceded the right of combination and the right of labor to be heard on all vital questions, but carried on negotiations through fixed channels and even opened their books to labor accountants?

Yet despite these restrictions to the sphere of private enterprise such restrictions seem to have made no dent in the competitive assumption. In an argument against compulsory grouping it is maintained that “the existing free and unfettered competition is best for all.”¹⁸ As always, “the pressing need of the industry today is tranquillity and a freedom from interference.”¹⁹ It is considered a misfortune that the industry has figured much too prominently in the public eye.²⁰ “We are satisfied that the coal industry can be carried on, on a sound economical basis, if it is left alone.”²¹ “In a word, there is nothing much the matter with the British coal industry, except that it has become a playground for politics without and for propaganda within. Given a fair chance, with equal conditions and freed from statutory entanglements, it is capable of rendering to the nation in the future the same service that it has given in the past.”²²

The dislike of government interference must not

¹⁷ Lord Londonderry in the discussion of the Bill of 1842; Quoted by Boyd, Nelson, *Coal Pits and Pitmen*, p. 109.

¹⁸ Royal Commission on the Coal Industry (1925), *Minutes of Evidence*, Thirty First Day, p. 13.

¹⁹ *Colliery Guardian*, Nov. 7, 1924, p. 1199.

²⁰ *Ibid.*, July 18, 1924, p. 167.

²¹ *Ibid.*, Feb. 26, 1926, p. 495.

²² *Ibid.*, Jan. 1, 1926, p. 32.

be interpreted as merely arbitrary or negative. It springs from a positive belief in freedom and in all that freedom has accomplished. "Statutory entanglements" are feared "because they tend to sterilize the process of development through voluntary effort."²³ There is genuine confidence that if the industry were quietly left to the play of economic forces it would heal itself. The government is conceived as an inept meddler, lacking in the knowledge of market ways and blunderingly interfering with the law of supply and demand. The fact that it blunders in the name of the common good is only added proof of its blindness. The best the government can do is to serve as handmaiden to industry by undertaking research and providing statistical information.

A conviction of the harmony between the private exploitation of coal and the public interest remains, as in the earlier days, the cornerstone of the edifice on which the owners build. The consumers of coal need have no fear, therefore, that their interests will not be protected. Indeed, it is largely for their sake that the coal industry must continue to be carried on under private enterprise. The protection to the consumer comes from his complete freedom of choice. He may patronize this firm or that and thus be assured of the quality of coal he desires. This freedom he exercises in a market dominated by the competition between owners and the desire of each firm to cut costs of production through new inventions

²³ Statement issued to the Minister of Labour on behalf of the Mining Association on May 21, 1926; quoted in the *London Times* on May 22, 1926.

and improvements. All of this is to the consumers' advantage. The ultimate protection of the consumer, however, is that he may "decline to become a purchaser."²⁴ For the criticisms leveled against the distributive system the owners take no responsibility. In 1919 they maintained that if the price paid for household coal was excessive, "it is the fault of the local authority or the consumers themselves for not having made other provision for the delivery of the coal." In 1926 emphasis is placed upon the fact that "if left to competitive forces this part of the trade will adjust itself." Intermediaries "perform a useful function or in the stress of competition they would very soon be eliminated."²⁵ Finally, "anyone who can take four tons of coal at a time can purchase direct from a colliery."²⁶

The coal owners' economic creed finds no disharmony between the miners' position in the scheme of things and the pursuit of private profit. Reformers, humanitarians, and workers have from time to time pictured the owners as human beings who are spiritually dwarfed, insensitive to the aspirations of the common propertyless man, careless of human values, ready to condemn a million miners with their wives and children to a sordid struggle for existence in order that private enterprise may prosper. But to plead that mine owners are less humane than other people is unjustifiable, a fact recognized by the miners who are in the habit of distinguishing

²⁴ Coal Industry Commission, *Minutes of Evidence*, Vol. II, p. 844, 1919.

²⁵ Royal Commission on the Coal Industry (1925), *Minutes of Evidence*, Thirty First Day, p. 12.

²⁶ *Ibid.*, p. 13.

between individuals and "the system." There may be some validity in the consideration that men who are accustomed to see the hardships of others, without themselves suffering the evils, become hardened to them.

If the owners rarely plead for a higher standard of living among the miners; if they seldom raise their voices against the hideous unsanitary hovels which every visitor to English and Scottish mining towns has seen, if they never paint the hopelessness of childhood, the lack of opportunity for education, the calamity of illness, accident, and old age; if they do not focus on these miseries it is not because they are indifferent to human suffering. The explanation lies rather in the fact that the owners believe that private enterprise yields to the workers as large a measure of the good life as is possible at this moment of civilization. It is to the laborers' advantage that wealth should increase as rapidly as possible, and if they who control industry focus on that problem they do more for the workers than scores of well-meaning philanthropists. The directors working with their balance sheets and the hewers working with their picks are true comrades in the industrial venture. Even what might be termed the "excesses" of the system, as when a given firm "paid out its capital [as dividends] seven times over in twenty years" are a good thing for labor for "if there were not some great prizes in industry you would not get capital into industry."²⁷

The attitude that the prosperity of the industry is

²⁷ Coal Industry Commission, *Minutes of Evidence*, Vol. I, p. 179, 1919.

to the advantage of the worker has been emphasized in wage negotiations, and great stress has been laid upon the fact that the miners should be identified with this prosperity by a profit-sharing scheme.²⁸ In this way the owners feel that an identity of interest could be established, without giving the workers an actual voice in the carrying on of the industry. If the owners are wary of schemes of "joint control" or of propaganda which no longer takes for granted a system of private enterprise as final and eternal, it is in large part because whatever endangers the system endangers the welfare of all.

Looked at through the spectacles of the owner and his friends, the miners appear to be caught in a "mad and muddy economic philosophy." They seem to stand against the cause of England's prosperity and such unreasonableness, it appears, must be prompted from alien sources. In 1920, there was a great deal of talk of Mr. Smillie, "cross-grained" and "fanatical," taking orders from his chiefs in Russia. "The fate of England and the Empire may at this very moment be settled by a Committee of Russian Jews in the Kremlin."²⁹

The workers' demand for further participation in industry seems thoroughly impractical or dangerous when it is viewed as a wedge in the plan of "turning the industry over to a horde of amateurs." That which to the one side appears as a spiritual impulse toward a higher life is, to the other side, sheer unreason and disloyalty. In the face of the miners' rebel-

²⁸ Coal Industry Commission, *Précis of the Mining Association*, Vol. II, p. 803 (1919).

²⁹ "Realities in the Coal Crisis," *The Spectator*, Sept. 11, 1920, Vol. 125, p. 324.

lion against the present ownership and management of the industry, one mine owner declared that "the miners do not care who owns the coal." The owners take it for granted that the miners shall remain the docile instruments of the system which they carry on. "It is the miner's business to produce coal in a fit condition for use; its subsequent use and treatment is not his affair."³⁰ Only in this way, by each group concentrating on its own work, can the manifold tasks of mining be accomplished with the greatest efficiency. In the urging of longer hours as a "social necessity" and of lower wages as the only road to prosperity there is no reason to believe that the owners are animated by a narrow, selfish desire to flourish—when others must pay the price. If, as is the opinion of many, they fail to see possibilities for the industry through reorganization, the indictment is an intellectual one. With some qualifications it might be said that nearly all groups are agreed on the ends which industry should achieve; they differ as to the method of achievement.

IV. THE ECONOMIC CREED JUSTIFIED

It is not, however, merely upon a doctrinaire theory of *laissez faire* that the owners rest their case for private enterprise. It is upon the past record of the industry itself. The fact that the period of private enterprise has coincided with the period of the development of the coal resources is taken as *prima facie* evidence that the relationship between the two is causal. In 1919 they maintained that "the indus-

³⁰ *Colliery Guardian*, Dec. 24, 1925, p. 1533.

try is run on highly efficient and progressive lines,"³¹ and seven years later they reaffirmed the same judgment.³² The causes which have combined to bring the industry to disaster have been operating, they claim, only during the past 13 years and these causes have been outside the control of the owners. The claim of efficiency they support by pointing to the tremendous growth of the industry, the increasing use of mining machinery whose introduction "was and always had been the policy of the owners," the decreasing accident rate, the improved condition of the workers, the lack of unemployment before the war, the capture and extension of foreign markets and the development of by-products. All of this "is eloquent testimony to the enterprise, initiative, and skill which coal owners and their managers have brought to bear upon the industry,"³³ and which "provides indisputable proof of the spirit of enterprise in the industry and is evidence of the fact that it is neither faulty organization nor inefficiency of management that is responsible for its present economic position."³⁴

It appears then that the legislation which was passed before 1913 and the concessions to workers which at various times were about to plunge the

³¹ Coal Industry Commission, *Minutes of Evidence*, Vol. II, p. 805 (1919).

³² See Royal Commission on the Coal Industry (1925), *Memo-randa Submitted by the Mining Association on the Twelfth and Thirty First Days*.

³³ Coal Industry Commission, *Minutes of Evidence*, Vol. II, p. 805 (1919).

³⁴ Royal Commission on the Coal Industry (1925), *Minutes of Evidence*, Twelfth Day, p. 334.

owners into ruin have blended into a general situation to which private initiative may point with satisfaction. Pride in the achievement of a relatively low accident rate has replaced the determined resistance to almost every safety device legislatively imposed which Parliamentary records reveal. Limitations to the sphere of private enterprise, like revolutions, seem to be accepted and even justified when time has robbed them of their sting. One fact emerges with clarity: no infallible logic guides mine owners more than other men to the sure determination of the limits at which control should cease. They maintain that "the system of private ownership, however it may be improved, will always hold the field against any other system."³⁵

Nor is the mine owner unaware of the voice of the critic. The upholders of a different economic creed argue that it is fallacious to lay wholly at the door of private enterprise the success of a venture in which so many objective elements conspired to yield success. They argue that there is no reason to suppose that another type of industrial organization could not have taken advantage of England's bountiful and varied supply of high quality coal and made a record of achievement during the past 50 years. Moreover, the critics find unsatisfactory the standards of efficiency which the owners invoke—that the industry "will compare favorably with that of the coal industry in any other country, or of any industries in this country."³⁶ Such devices of measure-

³⁵ This reflection prompts the query: how much alteration can a system suffer and still go on doing business as a system?

³⁶ Royal Commission on the Coal Industry (1925), *Minutes of Evidence*, Thirty First Day, p. 2.

ment are at best highly relative. The character of the industry does not lend itself to enlightening comparisons with other industries from the point of view of efficient production, and the different natural conditions in foreign coal fields admittedly make comparisons of efficiency extremely misleading. Moreover, the critics point out that a host of witnesses challenge the confidence of the owners at this point. Engineers, economists, and miners, both in England and from other countries, have pointed to specific ills which call for remedial action.

But to this the mine owners reply that criticisms, more often than not, spring from doctrinaire assumptions, "made by those interested in discrediting private enterprise in industry generally,"³⁷ and that "their origin dates from and is clearly traceable to the necessities of the political nationalization campaign of the past few years."³⁸ So far as specific suggestions "contain any points of substance, these for the most part have been, are being, and will continue to be given effect to."³⁹ The assertion that another form of industrial organization could have achieved the success of the past lies wholly in the realm of speculation.

Certain critics have urged that the owners conceive their industry too narrowly. In many quarters there is an increasing tendency to emphasize coal-utilization rather than merely coal-extraction—to view the problems of coal as essentially related to the development of by-products and the generation

³⁷ Royal Commission on the Coal Industry (1925), *Minutes of Evidence*, Thirty First Day, p. 2.

³⁸ *Ibid.*

³⁹ *Ibid.*

and transmission of electric power on a large scale. From this point of view the future of coal mining is not to be solved "by balancing potential economic gains and losses within the industry itself under alternative forms of organization, but by having regard to the service the industry may render to the whole economic life of the country."⁴⁰

The mine owners are as eager as any group that the coal industry should thus serve the economic life of the country, but they do not believe that advance lies in any scheme of collective action on a large scale. They regard their sphere as colliery proprietors as limited to coal-extraction—except of course in cases where they own and operate ancillary undertakings. "As far as the colliery proprietor is concerned, his responsibility for any waste in the coal mining industry ceases when he has disposed of his coal at the pit head." If there is economic advantage to be gained from by-product development, "self-interest will bring it about," not necessarily the owners' self-interest, but the self-interest of some one who perceives the opportunity for gain. Unless such development is commercially profitable it should remain in the stage of experimentation.

So too, in regard to the whole scheme of electrification the owners' attitude has been that private enterprise can be relied upon to bring about whatever developments are economically feasible. They have little faith in group planning and group action. Improvements in technique come little by little. Problems become clear, experimentation is carried

⁴⁰ Précis of Mr. Arthur Greenwood before the Coal Industry Commission, Vol. II, p. 546, 1919.

on, and a need or chance for improvement here or there is followed by change. Whenever, for instance, it is advantageous for firms to amalgamate, such amalgamations take place, whereas "nothing but dismal failure can follow political action to force producers of coal to accept responsibilities in opposition to their commercial instincts." The same is true in regard to the relation of coal and cheap power development. Waste and confusion threaten if there is substituted for the mechanics of free enterprise the judgments of a politically constituted group who are trying to carry out some preconceived scheme of economic arrangements.

The attitude of the coal owner is not a thing of mystery; it is the "practical common-sense" which has determined and shaped British industrial development. Differ with him as you may, quarrel as you may choose with his plans and procedures, you yet must recognize in him a working faith. He is not the "stupid, incredible" opportunist he is sometimes painted. To see him as simply clinging to established possessions and privileges is to fail altogether to see him as he sees himself—working within a great tradition. Despite the fact that the industrial scheme has been disturbed by interferences from without and the advancing tide of trade union control from within, the theory of private enterprise and "free" competition founded upon private property is the coherent, simple, and abiding faith of the owner. Against it, he sees the wilderness of "unbelief," the untracked road of collectivity in all its forms. To doubt and to refuse to conform to prin-

ciples which have carried modern industry to new levels of achievement and success is disloyalty to England and to human welfare. Possessing such a faith, it is little wonder that he fails to understand opponents whose major premise is a denial of those economic verities on which the structure of society, so it seems to him, must rest.

"The owners must accordingly urge that a truer sense of perspective be observed in these matters, and in particular that it be realized that the theory that industry can be coerced into prosperity by restrictive action from outside is unsound, and is foreign to all the traditions of free and open competition on which the success of British industry has been built up under private enterprise in the past."⁴¹

⁴¹ Statement issued to the Minister of Labour on behalf of the Mining Association of Great Britain, May 21, 1926.

CHAPTER VIII

THE MIND OF THE MINER

"Miners were always a peculiar people. Toiling below our workaday world, in compact and numerous bodies, trained to mutual loyalty by peril, passing on from father to son the traditions of their hereditary calling, they have developed a group mind, which has made them, as it were, a distinct race among us."¹ Our present task is to attempt to understand something of this mind in terms of the forces which have created among the miners a distinct attitude toward their industry, and to come closer to the coal problem, not as a business inquiry, but as a human study of those who mine the coal.

The story of a group mind must be a complex one, and this story of the miner reaches out into the miner's past; it coincides to a large extent with the development of all the social forces at work in England during the past century; it reflects the growing spirit of internationalism; it comes to focus in the peculiarities of the miner's work and the special conditions under which he lives. His mind is at once the cause and the effect of his educational interest. No description by such epithets as "bigots" or "revolutionists" or "victims of propaganda" can do justice to the complexity of all these forces.

¹ Editorial in *The New Leader*, July 16, 1926.

One must freely admit two chief difficulties in attempting to deal with a group such as the miners. First of all, there are wide variations in the traditions of different mining localities. There is every shade of opinion on economic, political, and religious subjects. There is every degree of skill and enthusiasm for sports. Local customs and conditions of work, local terminology, local prejudices, local pride play a large part in the miner's life. Yet beneath all these differences there runs the common pit experience, giving rise to the common problems and the common aims which manifest themselves through the solidarity of the Miners' Federation. Secondly, there is the difficulty of separating the opinion of the rank and file from the opinion of leaders, for the latter alone is vocal. In any organization the interrelation of these two factors is a subtle one. Rank and file opinion is in a sense made by leaders, yet leadership depends upon the choice of issues which find a response in the mind of the group. But despite these two difficulties, in whatever sense any group may be said to have a mind, the mind of the British miner is distinct and interesting, a force to be reckoned with as one tries to understand the conflict in which it is engaged.

An explanation of the miner's mind is of the utmost importance for practical policy. There has developed of late a more adequate recognition of the fact that it is impossible to conduct a great industry with success if the mass of the workers are discontented and ready to challenge the whole method of operation. Any policy which consistently defeats the ideals of one-tenth of the population of

Great Britain is on precarious ground. However one may judge the specific remedies proposed by the miners, the first requisite for an intelligent "labor policy" is the recognition that "a miner's a man for a' that."

I. THE MINER'S TRADITIONS

In the miner's world as in the owner's, traditions of the past lay a heavy hold upon the present. The miner is the son, the grandson, and the great-grandson of a miner. By oral tradition, union oratory, and workers' education he knows the history of the oppressions in the industry, the abuses and injustices of an earlier day. The miner looks back a century and sees his predecessor of that period working twelve to fourteen, even eighteen, hours a day, sometimes under bond, in mines where there were few safety devices and no inspection.² He knows that the families of the men who were killed were left in destitution, as were also the permanently injured and the aged among the miners. He is familiar with the abuses in the weighing of coal, the heavy fines for short measures, and the arbitrary confiscation of tubs. He knows the long and bitter fight to achieve an independent checkweighman. He knows, too, of the truck shop where the miners were forced to buy goods at prices fixed by the mine owners. He and his fathers before him have suffered eviction from owners' houses at a time when eviction meant homelessness. He knows that a century ago most

² "It was then customary not to trouble about a coroner's inquest if the corpse 'was only that of a collier.'" "The newspapers as we learn from one of them were asked not to mention such things." Webb, Sidney, *Story of the Durham Miners*.

miners could neither read nor write and "had occasionally a dialect which was totally unintelligible to educated ears."³ He is aware that his early attempts to secure an education through legislation were consistently attacked by the owners because of the "prejudicial effect on profits." It does not surprise him to read that the miners of earlier years were "a rude, bold, savage set of beings, apparently cut off from their fellowmen in their interests and feelings,"⁴ nor that the pitmen, as described in 1768, were "a most tumultuous, sturdy set of people, greatly impatient of controul, very insolent and much void of common industry." Having experienced intense physical hardship, he understands why the miners of the early nineteenth century, brutalized by overwork, should seek relief in exciting, if crude forms of recreation.

Recording his attitude toward these earlier days, a pitman remarks, "I read of women dragging along their length in chains, prostituted and bestialized by conditions now happily eradicated—of children cooped up in the pit, trap-door boys, fire tenders, companions of the darkness and the rats so long that they saw the daylight only in the week-end interval, and I blush with shame for the community upon whose annals such monstrosities are bound to be recorded."⁵

The miner knows too that the evils of his life and work have been overcome by his own hard and well-sustained efforts in the face of strong opposition, and,

³ Hovell, Mark, *The Chartist Movement*, Manchester, 1918, p. 27.

⁴ Boyd, Nelson, *Coal Pits and Pitmen*, London, 1895, p. 25.

⁵ Dataller, Roger, *From a Pitman's Note Book*, p. 86.

as has been recently pointed out, "progress is frequently regarded less as a cause for gratitude than as a reason for believing that the hardships that still exist, and are represented as unavoidable, may be as unnecessary and as open to remedy as those that have in fact been abolished."⁶ Moreover, the "wolf, wolf!" of economic disaster has so often been sounded as a response to his demand that he has ceased to fear it.

This awareness of his own history is an important factor in giving the miner a bias in favor of further change. For attitudes are compounded of loyalties as well as purposes. Existing institutions seem to him neither necessary nor sacred. Spurred on by the striking contrasts of misery and luxury in the existing order he is not afraid to attempt control of the social forces he finds about him. He sees no reason why he should rest content with his earlier achievements, and he turns to his past in support of further demands as the mine owners invoke their earlier achievements in justification of the *status quo*.

II. THE MINER'S LIFE AND WORK

It is, however, more than the conditions of the past which have determined the miner's social and economic point of view. His every-day routine in the mine and the mining village tends to maintain the traditions of the past as a living experience. It is here—in his daily life and work—that his mind is molded; it is here that we shall find the basis for his attitudes and his demands.

⁶ Royal Commission on the Coal Industry (1925), *Report*, Vol. I, p. 109.

1. THE MINING COMMUNITY

The geographical and social isolation of the mining groups has affected the miner in many significant ways. The diversity of occupations and aims of other industrial communities is lacking for the miner. His preoccupation is the same as his neighbor's, and though his interests may be narrow they run deep. And the isolation is more than geographic. It is at least in part a matter of black clothes and dirty faces coming home from the pit. The miner's life is a life which separates him and his group from their fellow men.

This separateness and homogeneity in mining communities has made the miner more impervious to public opinion and more dependent upon his leaders than are workers of other groups.⁷ And the miner's craft has tended to foster strong trade union leadership. The old saying, "Once a collier always a collier," is true not only for the miner but for his son. Nor is there much chance of "rising in the industry." The miner may become a manager. He does not become an owner, chiefly because he lacks capital, but also because he enters into a tradition of craft and class solidarity. This permanence of status for the great majority means that the miner's emotional and intellectual zeal, all his surplus energy, finds expression through religious, social, and trade union activities. He may preach in a local chapel on Sunday, and on week days fight for a bet-

⁷ This is perhaps the reason why the miners have been prone from time to time blindly to follow a leader. Being themselves unable properly to assess the forces arrayed against them in a conflict, they are more ready to accept the judgment of a leader who has also failed to judge the total situation.

ter organization of the miners—or of the mine. If, through ability and popularity, he achieves leadership, even if he is elected to Parliament, he conceives this as an opportunity for wider service within the movement, not as a chance to step outside. One inevitably contrasts the situation in America where two ex-presidents of the United Mine Workers have now become spokesmen for the mine owners,⁸ and this within a period of 30 years.

The solidarity among the miners is characteristic of the wives of the miners as well, for a miner's wife suffers the same handicaps as her neighbor.⁹ They are all fighting the same battle against the dirt brought home from the pit; they all face the same round of meals, preparation of bath water and the drying of pit clothes in houses where modern sanitary conditions are virtually unknown. If their husbands and sons are working on different shifts, their struggle may begin at four in the morning and end at midnight. And through the hard routine runs the daily fear of disaster for one's family, and the depression that comes from moving among those whom death or serious accident has left desolate. The lot of the miner's wife gives to her the same fixity of purpose, the same intensity of conviction as that of her husband. If one asks the secret of the miner's "staying power" in times of conflict, one must look to the miner's wife for the answer.

⁸ Within recent months, in the United States, the president of one of the district unions and one of the most influential men in the national organization was discovered to have contracted to associate himself at a future date with one of the mine owners' organizations of his district.

⁹ Handy, Frances, "The Life of a Miner's Wife," *Labor Magazine*, April, 1924, p. 534.

When the miner comes home from the dirt and danger of the pit, it is in most cases to face a stark ugliness of surroundings which remains as a permanent horror in the memory of those who have visited mining towns. Bad housing in the mining districts is the result both of geographic isolation of the towns and of the process of obsolescence, which is a normal phase of the industry in the older fields.¹⁰ A story is told of Henry George visiting a one-roomed miner's house near Dreghorn and trying to understand how the washing, cooking, nursing, sewing, as well as the sleeping, was done in one room. After the miner's wife had tried to explain, Henry George answered: "That may be all right for a young couple newly married, but what do you do when the family begins to grow and increase?" "Oh," was the ready reply, "we take in a lodger to help pay the rent."¹¹ The general scheme of arrangements which comes to be associated with a pressure as heavy as this cannot fail to be an object of hatred and distrust to those who have the home in charge.

2. THE DANGER OF THE MINER'S CALLING

The fight against the common enemy, danger, must be counted as one of the most important elements in the miner's life. It has been asserted that this

¹⁰ The owners' attitude toward the housing problem has varied. Some have insisted that the miners should have good quarters and have taken great pains to secure them. Others have been indifferent and irresponsible, and have even gone so far as to claim that the miners can take care of themselves in this respect. "There is no greater obligation upon the coal owner or the royalty owner to house his workers than on the butcher or the baker to do so." *Colliery Guardian*, July 18, 1924, p. 168.

¹¹ Lowe, David, *From Pit to Parliament*. The story of the Life of Keir Hardie, p. 20.

"danger and mutual dependence give to the collier all the dignity they confer on the seaman or the professional soldier."¹² Certainly the hazards of his occupation give the miner "the moral equivalent of war," and even more, for the seaman and the soldier meet danger in the open and in the light; the miner must face it in the dark. Beside the shadow of fatal accidents there are "perpetual worries with safety lamps and fears in the dusty and gassy mines that someone may light a pipe or that something may go wrong in fixing a shot."¹³ There is the excitement when the coal begins "creeping," "stirring," "heaving," or "bumping." The miners, like soldiers and seamen, risk their lives with a fine grace, but they know that within limits safety can be bought, and they assert that "60 per cent of the accidents in mines are preventable."¹⁴ They know, too, that mine inspection and many proved safety devices have been universally adopted only after long-continued agitation on their part, and they do not read complacently the toll of life and limb which the industry takes of them each year. All that the miner feels about the "Capitalist System" gathers intensity at this point. Keir Hardie with his telling pen spoke for the miners when he described a disaster in South Wales:

"Two hundred and fifty human beings, full of strong life in the morning, reduced to charred and blackened heaps of clay in the evening! Woe,

¹² "Merry England and the Miner," *Nation and Athenæum*, July 30, 1921, Vol. 29, p. 650.

¹³ "Invested Lives," *Nation and Athenæum*, October 25, 1919, Vol. 26, p. 117.

¹⁴ Myers, Tom, *Coal under Capitalism*, p. 5.

woe unutterable everywhere all through that fair Welsh valley. Only those who have witnessed such scenes, as I have twice over, can realize what they mean. Only those who know, as I know, that these things are preventable and solely due to man's cupidity can understand the bitterness of feeling which they awaken. . . . Coal must be got cheap . . . even if twelve hundred sturdy miners are murdered yearly in the process—twelve hundred hearths made desolate.”¹⁵

Before the Buckmaster Inquiry, Herbert Smith put the matter thus: “Marshal in one huge procession this army of bruised and broken humanity; marshal them four men in a rank, each a yard and a half apart, and you get a procession stretching a distance of 45 miles. Every 15 yards of that tragic march you would have an ambulance conveying a man who was seriously injured, and every 61 yards a hearse.”

The excitement and suspense is not for the miners alone; it extends to every member of the community. “No one who has seen it will forget the mining village when the subterranean rumble has been heard and the black column of dust and smoke is seen rising from the shaft—the desolate upland, the gaunt ‘stacks,’ the bleak rows of hovels from which the women with shawls over their heads run to the pit’s mouth and in silent, pale intensity watch the cage go down and at last return.”¹⁶

In his *Pitman's Notebook*, Roger Dattler declares,

¹⁵ Lowe, David, *From Pit to Parliament*. The Story of the Life of Keir Hardie, p. 53.

¹⁶ “Invested Lives,” *Nation and Athenæum*, October 25, 1919, Vol. 26, p. 117.

"There is a definite community of misfortune, a fellowship of poverty, a Guild of Grief. Men have sometimes wondered why it is that miners in their unions are so clannish; and they have marveled too at the nature of this welding and of the strength it represents. Well, they need not wonder more. It is of the mine, its danger and its need."¹⁷

The reaction from the danger and the hardships of the mine has doubtless been a factor in leading the miner in the direction both of exciting sport and intense religious experience. "Alternate the routine of your life between confinement in a darksome, subterranean hole and freedom under the vault of heaven; then you may experience in course of a twelve month more 'May mornings' than a youthful poet."¹⁸ Such contrasts breed and stimulate the imaginative habit of mind. The tendency toward speculation is further augmented by the freedom from supervision in the pit and by the piecework system which fosters independence of mind and personal initiative. The attitudes which have found expression in stirring religious movements appear with the same intensity in the beliefs and attitudes regarding social issues. When the miners seize hold of an issue they hold it as they hold a religious creed. And it is certain that whatever idea the miner has, it will have the character of a gospel—it will be touched by bigotry and intensity of conviction. It will have the solidarity of a coherent group.

¹⁷ Dataller, Roger, *From a Pitman's Notebook*, pp. 158-159.

¹⁸ Abercrombie, P., Branford, V., Geddes, P., Desch, C., Saleeby, C. W., Scott, E. K., *The Coal Crisis and the Future*, London, 1926, p. 85.

3. THE MINER'S EDUCATION

The spread of education among the miners has had a far-reaching influence upon their attitudes and beliefs. No group of workers can be found who have shown more educational initiative than the miners. From the middle of the last century the miners have formed student associations and study circles. They have taken advantage of correspondence courses and have flocked in large number to Workers' Educational Classes and summer schools. They have sent their members to Ruskin College, and in later years have been in the front of the movement toward "Independent Working Class Education," originating in the Plebs League. Through the London Labor College, owned and controlled by the National Union of Railwaymen and the South Wales Miners' Federation, the Scottish Labor College, and many non-resident colleges, the miners are continually sending forth groups who come back into the movement to teach and to organize. They have shared also in the work of the adult schools of the Nonconformist Churches, where religious and ethical teachings have been applied to social questions. So firmly has the tradition of reading and discussion taken hold of some of the mining communities that a cultural level has been attained far beyond what one would expect from a group whose energies are so heavily drawn upon in their work. A director of a coal company, eager to show how the miner has profited from the industry in the past hundred years, remarks that miners' cottages, though poor, abound in books, collections of fossils, musical instruments—evidences of cultivation.¹⁹ These tradi-

¹⁹ *Spectator*, Sept. 18, 1920, p. 361.

tions have been fostered and upheld by the miners' leaders in whose lives, from Alexander McDonald on, one finds a dominant educational impulse.

Those who believe that the miners' ideas can be dealt with either by fear or suppression fail to reckon with their long schooling and their belief in the power of ideas. The miners have been fighting "the battle against intellectual darkness," which as far back as the eighties the Northumberland miners maintained was the greatest battle "yet to be fought." "As a result of these educational labors more coal miners are qualified for technical appointments and the brain-working professions than any other group of manual laborers. And more of them are to be found in Parliament." ²⁰

The interest in education among the miners does not mean that all the miners are thinking intelligently about industrial problems. Catch-words and propaganda phrases pass here for arguments as among other groups. But it does mean that to a degree unusual in social movements the intellectual factor is active and constitutes an element to be reckoned with in dealing practically with the situation.

When the miners demand that their industry be made less burdensome, they are not bringing mere empty words to the controversy. Unless the owners recognize that they are dealing with an intellectual process, unless they can convert the miners to their individualistic philosophy, there is little hope that the battle of ideas will cease.

²⁰ Hodges, M. T., "The Fitness of British Labor to Rule," *The Forum*, January, 1923.

III. THE DEMANDS FOR AMELIORATIVE MEASURES

It is only in the light of the miner's long struggle and the character of his interests that his attitude in the recent crisis can be understood. To those who think of the crisis as a separate incident, it seems unreasonable that the miners should have been unwilling to make material sacrifice to stem the industrial depression. Yet the struggle of 1926 was for the miner simply one step in the unending fight which his fathers before him began and his sons after him must carry on as they seek to win a higher standard of living.

The mines have always been fertile breeding grounds for industrial and political theory, and the aims of the Miners' Federation must be viewed both as ameliorative and as reconstructive. Up to approximately 1890 the miners, with other trade unionists, took the present economic organization for granted. The miners' leaders like McDonald and Burt, the first working-class members to be returned to the House of Commons, were Liberals. They saw their task as one of gradually abolishing the miners' grievances, of doing away with legal disabilities, and of raising the standard of living by judicious use of the strike weapon and by Parliamentary action.

Accordingly from earliest days the miners' struggles have centered about the maintenance of a standard of life through protective legislation, even at a time when trade union leaders generally were advocating *laissez faire*.²¹ The continual danger of accident and death, and the physical divergence of

²¹ Webb, Sidney and Beatrice, *History of Trade Unionism*, pp. 296-297, 1907 edition; p. 313, new edition.

the coal seams with the consequent "abnormal working places," have set many problems as matters of negotiation between men and masters, and have greatly increased the miners' dependence upon organization. Like other groups of workers the miners had to overcome the "localism" which was responsible for so many of their early defeats and for the disappearance of many ephemeral unions. It was by slow and painful struggle that they achieved the complete unity of 1908 when the differences between the Durham and Northumberland miners and the Miners' Federation were swept away—a unity which met the test in the sharp struggle of 1912 for a minimum wage. The unstandardized conditions of work set by nature, and the variability in skill and efficiency of management which have an immediate and obvious effect upon the miners' earning capacity, give peculiar cogency to the trade union principles of stability and uniformity. Much of the energy of the Miners' Federation was directed in the earlier days toward abolishing the "sliding scale" as a method of wage payment, and later toward achieving a minimum below which wages could not fall. Continuous effort for many years has also been directed toward establishing national wage-fixing machinery. The local settlements have always carried the threat of an unbearably low standard of living for the poorer districts, and the Miners' Federation has taken the stand that the livelihood of their members should not depend upon the geological accidents of a particular district.

From the point of view of the miners' historical associations and loyalties, concessions on the disputed points of hours, wages, or wage-fixing machin-

ery constitute desertion of the cause. The seven-hour day represented for the miners one of their great achievements. Such milestones have until recently been considered as permanent gain. To see the Seven-Hour Act repealed was, in the eyes of many besides the workers themselves, "a violent breach with the whole tradition of British Social Legislation."²² The gravity of the step was from this point of view as serious for the workers as the loss of an extra hour of daylight with all which that means of increased strain both for the miner and for his wife.

In the return to the local basis for the fixing of wages, it appeared to the miners that they were being asked "to acquiesce in the breaking up of the great Federation which it has taken them so many years to build."²³ The miners see nationally negotiated wage agreements as the bulwark against a depression of the wage scale in the poorer districts. They know that bargaining by districts means weak bargaining; that unless the better districts come to the aid of the weaker ones, "wages will be beaten down to starvation point and the competition of these [poorer] districts will then be used against the others."²⁴ To the owners' argument that wages ought to be determined by those who know the local conditions, they reply that special local conditions can be taken account of through national negotiation. To return to the local settlements which prevailed before the war is to yield a safeguard which must be rewon at the earliest possible moment. For

²² "The Miners' Reply," *The New Statesman*, July 17, 1926, p. 377.

²³ *Ibid.*, p. 377.

²⁴ *Ibid.*, p. 377.

the miners it is conceivable that progress toward a higher standard of living should be slow; it is inconceivable that—for any length of time—it should be turned back.

IV. THE ORIGIN AND DEVELOPMENT OF THE NATIONALIZATION PROGRAM

The issues in the miners' movement are not merely those of wages, hours, and national settlements. Even before the World War when the coal industry was prospering and affording on the whole an increasing standard of life, the miners carried on, side by side with their immediate demands, an agitation for a change in the ownership and control of the minerals and the mines. The miner's dissatisfaction, all his urgency for change, has come to focus in the nationalization program. He sees in nationalization a scheme of arrangements which will eliminate many hardships of daily life which seem to him unnecessary. It satisfies, also, his conception of a more just and intelligent form of organization for his industry. To appreciate how the demand for nationalization came to be a part of the miners' program we must take cognizance of the trends of thought which lead far beyond the Miners' Federation. The readiness of the miner to accept this program rests not only upon the special conditions of his life and work, but also upon the structure and organization of the mining industry.

1. THE FORCES OUTSIDE OF THE MINERS' FEDERATION

The mind of the miner has been fashioned by forces far wider than his union. It has caught, and more important, it has amplified, currents in the

social thinking of the time. The miners' leaders have been labor leaders for the whole of England. Indeed, "the outstanding feature of the trade union world between 1890 and 1920 has been the growing predominance in its councils and in its collective activity of the organized forces of the coal miners."²⁵

To describe the way in which the miners received and gave impetus to the social forces of their time is a task of importance and fascination for the social historian, but far beyond the scope of this work. One can only point to the more important influences without attempting to give them proper weight or to suggest that they exhaust the field. This issue of paramount importance to the miner—the issue of nationalization—has become one of the most urgent in the industrial life of Great Britain. It is the immediate issue in the coal industry; less immediately, it is the issue in all the basic industries and services where the idea has taken firm hold. It is of importance, therefore, to understand something of the origin and growth of the nationalization idea. We must see it in perspective. We must inquire as to the elements of which it is made before we can answer the question whether it represents something which has been "Cooked" up in the coal industry to meet an emergency, or whether it is part of the warp and woof of the thinking life of the workers.

The beginning of the last decade of the nineteenth century saw the coming together in Great Britain of many currents of thought which were destined to gather increasing momentum and largely

²⁵ Webb, Sidney and Beatrice, *The History of Trade Unionism*, 1920 edition, p. 510.

to change the thinking of the British workers. The propaganda of the Social Democratic Federation in the eighties, of the Socialist League, and of the Fabian group, all exercised important influence on working-class opinion. After 1889 the strike of the London dockers gave impetus to "the new unionism," which, under the leadership of Socialists such as Burns, Mann, and Tillett, gave growing coherence to the Socialist doctrines, particularly to the extension of "municipal collectivism" and national organization of public services. After 1893, with the formation of the Independent Labor Party under the brilliant leadership of Keir Hardie, the Ayreshire miner, the collective ownership and control of the means of production, particularly of natural resources and railways, became an increasingly familiar plank in labor platforms.

It was during the nineties that the Miners' Federation of Great Britain began affirming its "belief in the principle of the nationalization of the land, minerals, mines, and railways, and all the means of industrial production, distribution, and exchange." This faith was each year reaffirmed and gradually became an integral part of the miners' program. For instance, in 1905, assembled in their Annual Conference, the miners pointed out that it was unreasonable for minerals to be yielding royalties of £10,000,000 and for mine owners to be receiving £20,000,000 profit a year.²⁰ In 1908 the Annual Conference agreed "that in the opinion of this Federation the workers cannot obtain the full value of their labor, and disputes be

²⁰ See *Proceedings of the Annual Conference of the Miners' Federation of Great Britain*, October 3, 1905.

avoided until the land, minerals, mines, railways, and the whole means of production, distribution and exchange are owned and managed by the state for the people, and that workers should only send such representatives to Parliament and other public bodies as have a direct interest in working for this change and no vested interests biasing them against it."

At this period the alternative which the workers saw was to work either for private profit makers or for the state. And the state was looked upon as the better employer, particularly in view of the increasing determination of the workers to send their own representatives to Parliament. "They looked forward to an impartial state, controlling and organizing industry, securing for the worker an adequate share in the wealth he produces, laying charges on industry for the benefit of the weak and incapable, and in other respects carrying on production much as it is carried on now, with a State Department in place of a managing director."²⁷ But as yet a share in the control of industry or any kind of effective coöperation in managerial functions was not contemplated.

Shortly after the turn of the century there came into competition with the orthodox principles of state socialism the aims and ideals of industrial unionism and industrial democracy, with increased emphasis upon direct action. These influences came, as we know, both from America and from France, and were "brought to bear upon the British labor movement" to a large extent through the Scot-

²⁷ Beer, *History of British Socialism*, Vol. II, p. 364.

tish Socialist Labor Party and through the work of Tom Mann, who had so enthusiastically espoused the cause of French syndicalism during his stay in France. But more influential were the contributions of the Guild Socialists, who "interpreted" and "adapted" the "new social ferment to the British mental and material condition."²⁸ The Guildsmen retained from State Socialism the idea of national ownership, but the conception of trade unions and trade union activity underwent in their hands profound changes. Their central thesis was the demand that "men be regarded not as citizens and consumers only but primarily as producers" and that the trade union should be the "organic unit of production." This emphasis upon workers' control came into sharp conflict with the earlier conception of State Socialism. Since the expression and freedom of the individual worker was counted of supreme importance among Guildsmen, there was, in their view, little to be gained by exchanging the capitalist employer for the state bureaucrat.

The ideas of syndicalism and Guild Socialism first bore fruit among the miners in a rank-and-file movement in the South Wales coal field, where industrial unionism was preached and taught in the local lodges, and where in 1912 the Unofficial Reform Committee issued "The Miners' Next Step," which was followed in 1918 by "A Plan for the Democratic Control of the Mining Industry." The pamphlets outlined a scheme for thorough reorganization of the industry which would give "free and rapid control by the rank and file," thus doing away both with

²⁸ *Ibid.*, Vol. II, p. 363.

“capitalist control” and the present “evils of leadership.” In the Miners’ Federation as a whole, however, nationalization was still interpreted in terms of state ownership and control, and in 1912 a bill on these lines was drafted by Mr. H. H. Slessor on behalf of the Miners’ Federation. It was in 1918 that the resolution in favor of state ownership and control was first superseded by the demand for “joint control and administration by the workmen and the state.”

The war and the post-war period brought to still greater definiteness the ideas which underlay the program of nationalization in England, and gave new impetus to the movement by focussing attention on “the failure of every alternative method of preventing profiteering.”²⁹ Combinations and price agreements, the unprecedented profits of many industries and the helplessness of consumers, all coöperated to convert large numbers to a desire for public ownership. At the same time, however, the State as administrator was seen to be too bureaucratic. The exigencies of wartime production and the growing self-assertion of labor resulted in a new and practical interest in workers’ control, evidenced by the workers’ committees and the shop steward movement initiated on the Clyde, and the rank-and-file reform movements in the various coal fields. For a brief moment the Whitley Report published in 1917 seemed about to create a new type of industrial relationship, and although it failed of wide adoption, the proposals familiarized many with the

²⁹ Webb, Sidney and Beatrice, *The History of Trade Unionism*. 1920 edition, p. 675.

idea of securing to the worker "a greater share in and responsibility for the determination and observance of the conditions under which the workers carried on."³⁰ As far as the miners were concerned, the pit committees which had been set up in nearly all collieries during the war to deal with questions of output and absenteeism had stimulated a greater interest in, and desire for, added control.³¹ Moreover, the miners, as members of various administrative boards, had had a definite hand in carrying on the industry. When finally faced with the approaching disappearance of government control, this war-time experience added impetus to their resistance to a return to the old system of private enterprise.

Meanwhile, in countries other than England the movement toward industrial democracy was gaining great headway. After the war the workers in all countries felt themselves on the verge of a new era. The old ways of life had been tried and found wanting, and in the terrific struggle of which they had borne the brunt, the ideals of a new brotherhood, a new form of democracy, had seemed possible of some degree of realization. The experiment of social reconstruction launched in Russia on a tremendous scale had become the subject of international interest and discussion. In other countries the workers tried in various ways to make real the new era, and in this movement the miners were in the front, partly because they were a large and well organized portion of the labor population, partly

³⁰ See Whitley Report.

³¹ See Cole, G. D. H., *Labour in the Coal Mining Industry*, pp. 69-70, Oxford, 1923.

because it had always seemed evident to the socialist groups that natural resources, being a gift of nature, should not be exploited for private gain.

In Germany, when the 1918 Revolution broke out, the outstanding industrial issue of the day was nationalization of the highly monopolized industries such as coal and iron. The workers and many who rallied to their support in the hope of a new Germany pressed for *Sozialisierung*. The old term of *Vergesellschaftung*, indicating control by a democratic state, was abandoned and the new term gave voice to the desire of the workers for participation in control of industry. The master-servant relationship, whether of capitalist or state, was to be abolished. The majority report³² of the first socialization commission appointed by the government proposed a reorganization of the coal industry along new lines.³³ This report was never adopted. The

³² *Vorläufiger Bericht der Sozialisierungskommission über die Frage der Sozialisierung des Kohlenbergbaues.*

³³ It was proposed that a coal union (*Deutsche Kohlen Gemeinschaft*) in the form of a joint stock company should become legal possessor of the coal interests of the country. A distinction was made between the legislative functions of the industry to be dealt with by a central body composed of workers, managers, consumers, and representatives of the state, and the executive branch to be carried on by a committee of five who were to have free initiative and wide discretionary powers to carry on the industry as a concern financially separate from the state budget. Decentralization on the basis of geographic or economic units was provided.

The particular type of reorganization suggested was in part due to the influence of Otto Bauer, who before the war was editor of *Kampf*, the Socialist paper of Vienna. Later he became president of the socialization commission of the National Assembly of Austria. He wrote a series of articles for the *Arbeiter Zeitung* under the title of "*Der Weg zum Socialismus*," translated into French as "*Le Marche au Socialisme*." Bauer was a keen exponent of the socialization of industry, which he conceived to have the double goal of improving the condition of workers, "and put-

new socialist government, faced with the problem of demobilization in a period of economic readjustment, with the burden of defeat upon its shoulders, dared not undertake the responsibility of fundamental industrial experimentation, even though such experimentation lay within the Socialist program.

In France a clear manifestation of the new spirit showed itself in the determination of the leaders of the *Confédération Generale du Travail* to abandon the negative and merely defensive rôle which they had played up to 1918 and to take part in the economic reconstruction of the post-war period. To meet this end they helped to form an Economic Labor Council, (*Conseil Economique du Travail*, commonly called the C. E. T.) to survey the economic situation and to suggest ways and means out of the chaos of the post-war period. This Council was divided into several sections for the study of different problems and the formulation of a new program. The group on raw materials issued a report on the reorganization of the mines. It was stated as a first axiom that the industry "must be built around the social interests which it serves," and yet individual initiative and enterprise must not be sacrificed. "The problem is that of conceiving an organization in which the individual interest can find fulfillment only in the collective interest." "Nationalization must seek to avoid conditions in which the individual finds himself in opposition to
ting at the disposal of the community the revenues which until now went to the capitalist." The socialized industries were to be controlled by those whose needs the industry must satisfy—workers of all classes, consumers, and representatives of the state.

the community.”³⁴ The state was conceived as having an interest in the proper exploitation of the mines, although *étatisation*, or bureaucratic state control, was summarily banished.³⁵

Even in America the signs of the times were not wanting. The Plumb Plan for the nationalization of railways was formulated in 1919, and in the same year the United Mine Workers, for the first time in their history, adopted a resolution in favor of nationalization of mines.

The miners of Great Britain have kept in close touch with these foreign movements. No other British workers have been as well organized internationally as the miners. From 1890 to the war, and since 1918, yearly conferences kept the miners' leaders in contact with the Socialist and Syndicalist movements of European countries. It must be remembered that as early as 1869 the first International Socialist Congress declared its belief in the nationalization of natural resources, and in Germany in 1891, when Kautsky formulated the Socialist program at Erfurt, a plank for the state ownership and control of natural resources was adopted.³⁶ During the

³⁴ *Nationalisation des Mines*, Avant-projet élaboré par Le Conseil Economique du Travail, p. 14.

³⁵ The scheme of control pivoted around a central administrative council legally possessed of the powers of a joint stock company and representing, in equal numbers, producers, consumers, and the state. A separate executive management composed of a director and four subdirectors chosen by the central council was intrusted with the responsibility of actual management. Each subdirector was charged with the management of a different branch of the service. Regional and pit committees were established to guard against overcentralization. A plan for the nationalization of railways and for the electrical supply were worked out in much the same terms.

³⁶ See Kautsky, Karl, *Das Erfurter Program*. The eighth German edition of 1907 has been translated by William E. Bohn (Charles Kerr and Company, Chicago).

eighties, Socialist parties were formed in different Continental countries. In France by 1894 M. Jaurès had introduced into the French Senate the first important bill for the nationalization of mines. In its first meeting in 1891, the International Miners' Federation went on record for the nationalization of mines, together with the eight-hour day, minimum wages, and accident compensation. Year after year the problems of mining common to workers of all countries, have been debated, current practices appraised, and progressive standards embodied in the annual platform. It is enlightening to compare the program of 1891 with that of 1924 when the Conference at Prague established a full-time secretariat and favored the seven-hour day, workers' councils, holidays with pay, an international commission to distribute coal, moral and financial aid in time of strike, efforts to prevent the export of coal to a country where a strike is in progress, and a general international strike in event of war. This background of international thinking has borne fruit among the miners of the different countries in a more adequate and sympathetic understanding of each other's struggles. However much such understanding may be thwarted and overcome by the conflict of interests between national groups, this bond of interest cuts across the impersonal, international competition by which the industry is carried on, and constitutes a point of difference between the workers and the mine owners.

Perhaps the most powerful single stimulus ever given to the nationalization movement was the Sankey Coal Commission of 1919. No government commission had up to that date ever subjected an indus-

try to so thorough an investigation nor uttered so plain a condemnation of accepted business procedure. Of the four final reports, only that of the coal owners did not favor drastic reorganization. These reports as well as the evidence given before the Commission served to strengthen the miners' distrust of the present organization of the industry. It made them aware of specific deficiencies and provided them with arguments and statistics from reliable sources. It served to familiarize even the rank and file with alternative forms of organization and to focus attention more acutely than ever upon the royalty owner and the profit maker. By helping the miners to formulate their objections to private ownership and control it served to unite them in a determined effort to bring their long fight to a successful conclusion. It gave the standing of government sanction to the question, "Is the present scheme of ownership and administration satisfactory?" and thus the issue was brought to a new level. It was no longer the query of a few rebels, but the sober investigation of a government commission. And their attitude was further reinforced by reports from other countries. In spite of wide variations in conditions, commissions in America, Germany, and France had also presented indictments of waste and inefficiency in the mining industry—a fact which was becoming generally recognized. The mining industry as conducted was under universal condemnation.

2. THE STRUCTURE OF THE INDUSTRY

Schooled in the traditions of the nationalization movement, the British miners have been keenly

aware of many defects and shortcomings in the organization and structure of their industry. Among these none have figured more largely than the absenteeism of the owner. It is possibly because mining operations are conducted below ground that the chasm between the director of a mine and a working miner seems greater than in other enterprises. This chasm has become for the miner a matter both for jest and scorn. The first question that a miner likes to ask a coal owner is, "How long is it since you have been down a pit?"³⁷ And when it appears that the owner may never have graced the underground workings of a colliery of which he is director, the miners answer: "You may be wise in the ways of the market, but you don't understand coal mining as we understand it." They find that present day coal owners are likely to be "on the directorate of steel, coal factors, tinplate, breweries, harbor trusts, dry-docks and railway concerns."³⁸ and have largely to do with banking, thus distributing their wealth and their interests. It is the miners' opinion that "the obnoxious system of trustification which is creeping like a black pall over the industry"³⁹ is destructive both of efficiency and decent working relations. Tales—perhaps one should say legends—have survived among the older pitmen of earlier conditions when the personal relationship between the men and the old captains of industry was a matter of pride to both. The speculative feats of these earlier adventurers aroused the

³⁷ Royal Commission on the Coal Industry (1925), *Minutes of Evidence*, Nineteenth Day, p. 23.

³⁸ Parry-Jones, T. J., *The Other Story of Coal*, p. 64.

³⁹ *Ibid.*, p. 69.

admiration of the hardy miners. Sometimes, the story goes, the miners worked "on trust," waiting hopefully for the promised seam of coal. There are also stories of the old coal magnates identifying themselves with the welfare activities of the miner, living in the places where they won their wealth, their homes being often "the hub of social activity." "Some of these knew most of their workmen by name and wanted each to have a piece of beef and a pint of beer for his dinner every day."⁴⁰ But today "scores of dilapidated villages in the coal field could be enumerated where enormous fortunes are made and where not one from the owning side would reside to contribute to its welfare in any form whatsoever."

This "absenteeism" of the owner and his lack of mining technique—for how many directors, ask the miners, "could stem a shot, put up a prop, or properly put a wick into a pit lamp"—give the miners little confidence in the present directors. How can they pass wisely upon the recommendations of a colliery manager regarding mine development and administration? A board of miners would have far greater capacity for making wise decisions, for miners would possess a "mining mentality and would perceive the manager's point at a glance."⁴¹ The failure of the present system "to harness the fund of mining consciousness in the possession of the miners as a collective body,"⁴² is, according to the pitman who writes *The Other Story of Coal*, one of the most serious indictments of the present form of

⁴⁰ Phillips, Elizabeth, *Pioneers of the Welsh Coal Fields*, p. 59.

⁴¹ Parry-Jones, *The Other Story of Coal*, p. 67.

⁴² *Ibid.*, p. 69.

organization. The miner claims he has something to give the industry in craftsmanship, and he is convinced that nationalization will give him his opportunity.

The belief that the industry is inefficiently managed runs deep with the miner. Behind nationalization "lies the inarticulate conviction that the collier knows in his bones more about running a pit than fifty managing directors."⁴³ The miner, being more immediately dependent upon the skill and efficiency of the management than the worker in other industries, has a chance to observe wastes in pit management.⁴⁴ When there is a shortage of "trams", an insufficient supply of rails or timber, when the underground haulage is badly organized or even when the ventilation is poor, the work and also the pay of the miner must suffer. "Go to the mine where supplies are niggardly served, particularly timber, and you will discover there a much stronger feeling in favor of nationalization than in the mine where the works are more adequately fed."⁴⁵ Moreover, the searchlight of publicity and investigation has been thrown on the mining industry, and its weaknesses and faults revealed.⁴⁶ These indictments of the industry, repeated by numerous

⁴³ "Merry England and the Miner," *Nation and Athenæum*, July 30, 1921, Vol. 29, p. 650.

⁴⁴ See Pamphlet on "Wastes in Mining," published by the *Daily Herald*.

⁴⁵ Dataller, Roger, *From a Pitman's Notebook*, p. 267.

⁴⁶ The mine owners resent these continued charges of inefficiency. They ask "if it is logical that the mining industry should be in the hands of men who are less intelligent, skillful, well-trained, far-seeing, experienced or reasonable than the men who are responsible for the management of other industries, of finance, politics, newspapers, or trades unions." To which it might be

investigations, have been well mastered by the miner.

There is also the figure of the royalty owner reaping, according to the miner, where he has not sown. The royalty owner has always afforded a dramatic and vivid symbol of exploitation in the industry. Royalties on one side, wages on the other; the luxurious ease of "owning" against the sordid toil of the miner and his wife. In 1894, Keir Hardie asked, "What law is it which gives the Duke of Hamilton £114,000 a year in shape of mineral royalties and allows each of the miners who dig the coal on which the royalty is paid an average of £50 a year?"⁴⁷ And in 1919 and 1925 the Duke of Northumberland is asked before coal commissions what service he performs for the £75,000 which yearly falls into his hands.

The interest in nationalization has been further fostered by a democratic trade unionism. For the conditions of production in the mining industry, focussing as they do in the pit and the pit village, have been extremely favorable to building up a responsible trade union organization. Although there is wide variation between district and district, there have developed strong local organizations in which the miner has been schooled and through which he has been busy building up his freedom.

replied that coal, on account of its very importance, has been subjected to acute analysis, and that other industries, if subjected to the same process, might be found wanting to the same or to a greater degree. Royal Commission on the Coal Industry (1925), *Minutes of Evidence*, Thirty First Day, p. 8.

⁴⁷ Quoted by David Lowe in *From Pit to Parliament*, p. 73.

Little by little the old bondage has given way. He has now achieved the right of considerable control in matters relating to safety and welfare. He has built up machinery for negotiating wages and conditions of work, and has even effected—in the 1921 agreement—an arrangement for the disclosure of the financial results in the industry. The demand for an increased participation in industrial control has been the expression of the miners' search for the independent and intelligent direction of their own activities, which is the essential spirit of democracy. It has made a "Next Step" toward fuller responsibility seem both desirable and inevitable.

The life and work of the miner and his educational interest, as well as certain structural characteristics of the industry, have, as we have seen, predisposed the miner toward a desire for fundamental reorganization. The demand for nationalization is thus a complex demand. It is in part the age-long demand for more of the things that wages can buy. It is this material aspect which impresses itself on the owners and to a large extent on the public. From many quarters one hears that the miners want nationalization because they want more for themselves, irrespective of the rest of the community. And in wanting more they are as unjustified, it is claimed, as they are mistaken in thinking nationalization could give it to them.

Nationalization, however, is to the miners more than an economic remedy. It is a way of life. No economic panacea alone is capable of kindling men

who have been awakened to spiritual needs. In large measure the result of improved education has been to give meaning and force to the desire not only of the miner but of all workers for industrial self-government. "The miner wants to be in his job as a complete human being. He wants to know the social purpose of his work. In short, he wants to feel the joy that comes to a man whose whole personality is impressed on the object he is creating."⁴⁸ More and more the miners have been exercising their intelligence and initiative in different spheres of life, through their political affiliations, their trade unions, their social and educational activities, and now they ask that in their dirty and dangerous work they may act as men responsible to the community as a whole; that the Miners' Federation, which is now denied constructive power, be given its share in the task of carrying on the industry more efficiently.

But beyond this desire for a better standard of living and a new freedom in their work, nationalization has become for the miners a word to conjure with. It expresses for them the demand which in each of us calls for the realization of the "fairer possibilities in things."

"Whatever is thoughtful and farsighted and faithful in the miners' movement cries out, 'We want education and art and culture and a finer way of living. We don't know very exactly what it's all like, and we suppose it's too late for us as individuals, and we all drink too much beer, and bet too much, and all that, but we want what we don't

⁴⁸ Hodges, Frank, *Nationalization of the Mines*, p. 111.

PART III
FACING THE ISSUES

CHAPTER IX

THE FUTURE OF THE COAL MARKET

During the past three years the larger part of the British coal industry has been unable to meet the ends which may legitimately be demanded of every industry. It has failed to yield an adequate return to its owners. It has been unable to give a proper living to its workers. It has not rendered satisfactory service to its consumers. The most eloquent expression of this failure was the nine-month subsidy in which the government was called upon to furnish the funds which normally a self-supporting industry is expected to provide by its own achievements.

If then it be recognized that the coal industry has failed to do its own work, the immediate practical question is: Along what lines may it proceed in the attempt to reestablish itself? There are apparently three alternatives. If the industry could win back its lost markets the difficulties of today would largely disappear. Another possibility is the lowering of production costs to the point where the present restricted sales could yield a sufficient margin to meet the requirements of the industry. A third is the attainment of the necessary margin by increasing the value of coal through the capture of the many by-products which now go to waste; that is, by mak-

ing a ton of coal more valuable than it is at present.

The present chapter will attempt to assess the probable trend of events in the foreign and domestic demand for British coal, and to answer the query as to whether the industry is justified in depending upon the capture of lost markets to regain its prosperity. The next two chapters will consider the possibilities of creating a surplus by cutting production costs and by increasing the value of the industry's product.

I. THE WORLD COAL DEPRESSION

In analyzing the markets for British coal, it should be borne in mind that the forces which brought disaster to Britain's mines are worldwide. The coal industry of every country has for several years been beset with troubles. Like other industries it suddenly found itself at the end of 1918 with the demand for its product severely curtailed. But unlike other industries the limitations of its market were not alone due to the disorganization created by the war. With an organization adapted to a growing demand for its output, the industry, as has been shown, had to face the competition of substitutes and adjust itself to the growing efficiency of the steam engine. Consequently, at the cessation of hostilities the coal industry's condition was far more serious than that of most others.

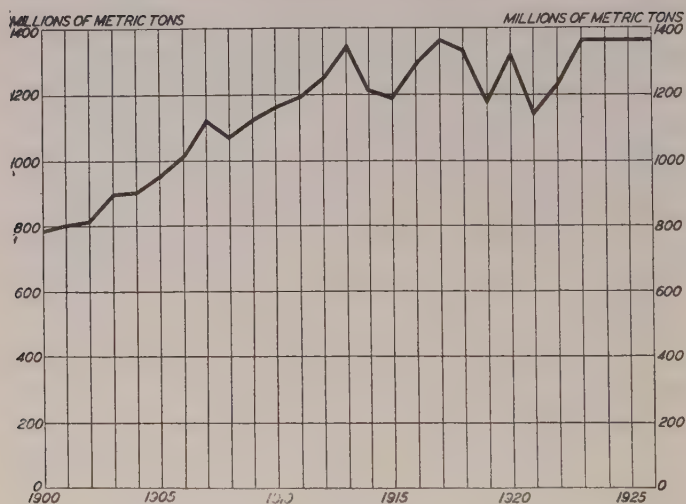
Prior to the war the world coal industry had been undergoing a process of marked and steady growth. The consumption of coal had been increasing at the rate of 50,000,000 tons per year. New pits were continually being sunk, and new capacity was

brought into existence to provide for expected future requirements. If at any moment there was no market for the output of a new colliery, the condition was usually but a temporary one, for past experience had shown that a market would be secured in the near future.

When suddenly the scene shifted at the close of the war, the industry found itself with a capacity far in excess of the world's needs. It was faced with the prospect of a demand which was smaller than that of five years before. In the six years that followed, market conditions remained substantially unchanged and the world consumption increased but little. The year 1924 witnessed a demand for but 1,350,000,000 tons of coal, an amount which was about 500,000,000 tons less than would normally have been expected had consumption increased at the rate of growth prevailing before the war. Economies in utilization, the development of hydro-electric power, the increased use of fuel oil, and the inability of certain European countries to overcome the disorganization occasioned by war, had all conspired to check the growth of coal consumption.

Under these conditions the coal industries of all the important fuel producing countries bent their energies to the capture of whatever markets were available. Competition became intense, and before long the world market was glutted with coal, coke, and lignite to the extent of a surplus of some 60,000,000 tons.¹ Nor was the struggle primarily one of country against country. In both the domes-

¹ Eastman, Mack, "A Brief Survey of Coal Crisis Literature," *International Labor Review*, Vol. 13, No. 5, p. 622.



WORLD PRODUCTION OF COAL, 1900-1926 *

* Sources of data: for 1900-1909, furnished by the U. S. Bureau of Mines; for 1910-1924, Black, J. E., Mann, L., and Tryon, F. G., *Mineral Resources of the United States*, 1924, U. S. Bureau of Mines, p. 645; for 1925-1926, *Weekly Coal Report*, No. 506, U. S. Bureau of Mines.

tic and the foreign markets the individual colliery owner fought against his fellow countrymen² and strove by every possible means to secure for himself as large a proportion of the available customers as was possible.

The strain occasioned by the struggle for markets had its effect upon all the coal-producing areas. It was felt not only in Europe but also in the United States and Canada. In these two countries bank-

² In Germany the existence of a coal cartel eliminated cut-throat competition between the individual colliery owners. Here also large stocks were accumulated, however, but mostly under the control of the cartel.

ruptcy and unemployment were rife, and many a colliery organization led a precarious existence until such time as financial reorganization or absorption by new interests revived it and further accentuated an already demoralized situation.

In such a *mêlée* Great Britain found that its supremacy in the world of coal was being threatened. It could not maintain itself in the face of the new and greatly intensified competition. In America and Canada the general economic situation made it possible to shoulder the burden of financial stress. In Germany the prosperity bred from inflation delayed for a time the pressure upon the coal industry. In England, where the coal trade was the mainspring of industrial activity, temporary and artificial stimulants failed to revive the ailing industry. In consequence the entire economic structure was seriously crippled.

II. THE PROBABLE FUTURE OF EXPORTS

The condition of the world coal trade had a most serious effect upon the domestic and foreign consumption of British coal. But the decline in consumption cannot, as many would hold, be primarily attributed to general industrial depression. The fact is that 1925, considered in the light of European post-war standards, was a fairly prosperous year. As compared with 1924, the next year saw a distinct industrial improvement in virtually all coal consuming countries. Yet the losses suffered by the British coal trade in the export and bunker markets in 1925 were greater than in any recent year.

Great Britain's important customers with but the

exception of Russia were all consuming more coal in 1925 than in the years preceding the World War. Western Europe (Germany, France, Belgium, Luxemburg taken with their pre-war boundaries) consumed 230,000,000 tons of coal in 1925, an amount which was approximately 13,000,000 tons larger than the average consumption in the years 1909-1913. Yet despite this fact the purchases of British coal fell from 20,730,000 to 15,730,000 tons. Similar export losses applied with but few exceptions to all of Great Britain's foreign markets. Germany, the Scandinavian countries, Italy, and Russia—all of Europe except France and Belgium in fact—considerably curtailed their purchases of British coal. The same was true of South America and Egypt. It is upon all of these markets that the future of the British coal export trade depends.

1. GERMANY

The curtailment of German purchases of British coal in itself accounts for 25 per cent of the total loss of exports since the years preceding the war. Germany's annual consumption of British coal averaged over 9,000,000 tons in the years 1909-1913. In 1925 she took from England but 3,451,000 tons of coal. This loss is not to be looked upon as a temporary phenomenon to be overcome "when Germany returns to a condition of industrial stability. The fact is that as industrial conditions improve in Germany one may expect a still further fall in coal shipments from England. The production of German coal is growing at a tremendous rate. If one compares the output of German coal (on a pre-war territorial

basis)in 1925 with that of 1909-1913 one is struck by the fact that there has been an increase in production of some 8,000,000 tons. Moreover, the production of lignite almost doubled in the same period. This increased production of lignite, in terms of its bituminous coal equivalent, added some 15,000,000 tons to the output of the country, making a total increase over the pre-war period of over 23,000,000 tons.³ Some of this increased output went to foreign countries in the form of reparation coal,⁴ some was sold abroad in the open market, and some, too, was consumed at home by German industry which used 8,000,000 more tons of coal in 1925 than in any of the four years preceding 1913.⁵

The increased production and use of lignite in itself bids fair largely to eliminate British coal from the German markets. It is becoming increasingly important in the generation of electricity—some 41 per cent of the public supply of electric current having been produced with lignite in 1924. It has supplanted coal in the production of nitrates and is preferred to bituminous coal in the manufacture of glass. (See table on page 232.)

The growing use of lignite is making larger and larger amounts of German bituminous coal available for export. Moreover, bituminous coal is being supplanted in part by an extensive development of hydro-electric power. Over 1,100,000 horse power

³ Royal Commission on the Coal Industry (1925), *Report*, Vol I, pp. 5 and 243.

⁴ Some 9,700,000 tons of coal and 3,800,000 tons of coke were delivered to the Allies as reparations in 1925; *Colliery Guardian*, Vol. 132, No. 3425, p. 416.

⁵ This figure includes the bituminous coal equivalent of lignite.

was developed by hydro-electric plants in 1923, an amount almost three times greater than that developed in 1913. Again, the efficiency of a ton of coal has been considerably increased in Germany during the past few years and recent testimony points to a saving of some 10 per cent in this direction alone.⁶

PRODUCTION OF BITUMINOUS COAL AND LIGNITE IN GERMANY,
1910-1926 *

(in thousands of tons)		
Year	Bituminous Coal †	Lignite ‡
1910	150,371	68,430
1911	158,164	72,588
1912	172,065	79,634
1913	187,054	85,831
1914	158,791	82,349
1915	144,507	87,535
1916	156,611	92,669
1917	167,747	95,543
1918	158,254	100,599
1919	116,707	93,648
1920	131,356	111,887
1921	136,251	123,063
1922	119,182	137,187
1923	62,316	118,735
1924	118,829	124,345
1925	132,729	139,804
1926	145,362	139,877

* Data for years 1910 to 1916 from Royal Commission on the Coal Industry (1925), *Report*, Vol. III, Appendix 2, p. 17. Data for years 1917 to 1924 from *Statistisches Jahrbuch für das Deutsche Reich*, Vierundvierzigster Jahrgang, 1924-25, p. 92. Data for 1925 and 1926 from *Colliery Guardian*, Vol. 133, No. 3451, February 18, 1927, p. 400.

† Figures after 1918 omit output of Lorraine; after 1920, of the Saar district; after 1922, of East Upper Silesia.

‡ Figures after 1919 omit the output of the ceded territory of the Province of Posen; after 1920, of the ceded territory of West Prussia.

All of these factors bode ill for the future of British coal, both in Germany and elsewhere. Added to them is the fact that about 80 per cent of the Ger-

⁶ Royal Commission on the Coal Industry (1925), *Report*, Vol. I, p. 244.

man output comes from the lower Rhenish Westphalian coal fields. This district includes the famous Ruhr field which by enlarging its labor force could without difficulty increase its present output of 97,000,000 tons to 150,000,000 tons, a potential output which is 30 to 40 per cent greater than its production of 1925.⁷ And moreover it is so located as to come into direct competition with British coal in Holland and in France, and to a degree in the Baltic and Mediterranean regions.

Finally, it should be borne in mind that a deliberate policy of shutting down the less profitable smaller mines has resulted in German production being concentrated in the larger and more efficient operations. Consequently the number of operating companies in the Ruhr has been cut to 70. In contrast to Great Britain's 1,400 mining operations with an annual output of some 250,000,000 tons, these 70 operations are producing about 100,000,000 tons per year.

Concentration has led, also, to a curtailment of the labor force employed. Since 1913 the number of workers employed in the Ruhr has been cut by 65,000, or about 15 per cent. With this decreased labor force the Ruhr is today producing as much coal per day as it did in the year⁸ preceding the war. For almost two years now, the Ruhr miner has been turning out more coal per shift than he did in 1913,⁹

⁷ Eastman, Mack, "A Brief Survey of Coal Crisis Literature," *International Labor Review*, Geneva, 1926, Vol. 13, No. 5, p. 624.

⁸ *London Times*, August 21, 1926.

⁹ It has been estimated by the Comité Central des Houillères de France that the efficiency per man in the Ruhr mines was 21 per cent greater in 1926 than in 1913. *Colliery Guardian*, Vol. 133, No. 3457, April 1, 1927, p. 752.

and he has been doing this in spite of the fact that his working shift is 30 minutes shorter.¹⁰ His output now materially surpasses that of the British miner.

Present evidences point to still further increases in the output of the Ruhr miner.¹¹ With further technological improvements and the mining of new seams he may be expected to produce more than ever before. The installation of modern mining equipment is proceeding at a steady rate. The seams now being mined are on the average thinner, deeper, more faulty, more gaseous, and more watery, than other seams that might be made available.¹²

The high quality of British coal will always assure a limited German market to Great Britain. Moreover, there are certain German districts reached by water, particularly the region around Hamburg, which can get British coal at prices lower than can be met by German producers shipping by rail.¹³ To look for a revival of the consumption of British coal in quantities approaching pre-war levels, however, is an expectation more sanguine than probable, for German imports seem destined to be much smaller in the future than in the past. As a matter of fact, the total imports of coal into Germany have diminished from 10,500,000 to 3,900,000 tons.

The state of the coal industry in Germany threatens even other foreign markets which have been

¹⁰ Royal Commission on the Coal Industry (1925), *Report*, Vol. I, p. 126.

¹¹ *Colliery Guardian*, Vol. 131, No. 3413, pp. 1, 175.

¹² Royal Commission on the Coal Industry (1925), *Report*, Vol. I, p. 244.

¹³ Even this advantage is now being threatened by a movement among the industrialists for the building of a canal from the Ruhr.

using British coal, and this in spite of the fact that the German coal trade cannot at the moment furnish long-time credits to the extent offered by British exporters. Even before the stoppage of 1926 German coal export figures already included a number of new markets which were not listed in pre-war days, particularly Norway, Portugal, the British Mediterranean, Dutch India, Turkey, and Uruguay. During the stoppage, of course, German sales grew by leaps and bounds, and the first six months of 1926 saw exports from the Ruhr (excluding reparations) exceed those of the banner year 1913.¹⁴ How far Germany will be able to maintain her newly regained foothold in foreign markets is a matter of speculation. That she will retain some portion of them is well within the realm of probability.

2. FRANCE

Although the French consumption of British coal has been maintained at the pre-war level, there are nevertheless evidences of danger for the future of the British coal trade in France also. Prior to 1914 France was the largest Continental consumer of British coal. Her average annual imports from England in the years 1909-1913 were 10,800,000 tons. In 1925 they were 411,000 tons smaller.

This loss of 411,000 tons, though of little significance when considered in terms of its size, becomes of large importance when examined in relation to the French consumption of coal. This decline in shipments to France took place while French con-

¹⁴ *Colliery Guardian*, Vol. 132, No. 3423, p. 313.

sumption was growing at an unparalleled rate. In terms of her pre-war territory France used 10,000,000 more tons of coal in 1925 than in the years preceding 1914. At the same time she increased her annual output by some 3,000,000 tons. Accordingly she had to look to other sources for over 6,000,000 tons more than she formerly bought. And none of this additional coal came from Great Britain. French receipts of British coal were actually smaller in 1925 than in former years. The extra 6,000,000 tons came chiefly from the Saar coal fields and from Germany, some by purchase and some in the form of reparation coal.

From the Saar coal area, now in French control, one may look for increasing shipments to French consumers. France will probably also continue to receive reparation coal from Germany for some time to come. It must be remembered too that the mines of the principal French coal fields—the Nord and Pas de Calais districts—that were demolished during the war have now been rebuilt. They have been remodeled on the most efficient and modern lines and no longer have to cope with the incumbrances and the delays that are an unavoidable part of the routine of old works and old equipment. There should be few obstacles to new ways of doing things and to the adoption of technical innovations in these fields. Indeed, evidences of a new era are already to be found here. Daily production has attained a level 13 per cent above that of the 1913 average¹⁵ and the large electrical developments recently completed at the reconstructed mines are furnishing surplus power

¹⁵ *The Economic Review*, Vol. 13, No. 17, p. 205.

to consumers as far afield as Calais, a distance of some 50 miles.¹⁶

Further relief from dependence upon imported fuel will come, too, from the development of hydro-electric power. Substantial progress has already been made along this line, and at the beginning of 1925 some 3,000,000 H. P. was being generated. This power is the equivalent of 12,000,000 tons of coal. If present estimates to the effect that 4,500,000 H. P. will be available within ten years¹⁷ materialize, one may look for a total annual saving in the coal consumption of France of some 18,000,000 tons of coal.

The extent to which the new developments in France will interfere with a revival of British coal exports is problematical. Increased domestic production, hydro-electric power, the modernization of mining methods, the acquisition of the Saar coal area, and a tax on imported coal may seriously modify the future prospects of British coal in France.¹⁸ Indeed, the outlook as to the future of Great Britain's largest pre-war customer is none too bright. Though England will in all probability maintain a foothold in France, there is nothing in the French situation which augurs any large increase of British coal sales.

3. SCANDINAVIA

With the increasing availability of German and Polish coal, Great Britain may also find it increas-

¹⁶ Royal Commission on the Coal Industry (1925), *Report*, Vol. I, p. 248.

¹⁷ Greer, Guy, *The Ruhr-Lorraine Industrial Problem* (Investigations in International Economic Reconstruction, Institute of Economics, Washington), p. 247, 1925.

¹⁸ Royal Commission on the Coal Industry (1925), Vol. I, p. 248. See also p. 267, footnote 16.

ingly difficult to keep her Scandinavian market. Norway, Denmark, and Sweden, possessing no coal deposits of significance, have for many years been dependent upon Great Britain as their principal source of fuel supply. Of the annual average of 10,500,000 tons formerly imported, 9,918,000 tons came from England.¹⁹ By 1925 imports of coal had grown to over 11,500,000 tons. Of this amount, however, only 8,806,000 tons came from Great Britain. That is to say, British exports to Scandinavia and Denmark actually decreased by over 1,100,000 tons at a time when the total coal consumption of these countries increased by over 1,000,000 tons.²⁰

Poland has already made a bid for the Scandinavian markets by giving freight concessions to export coal. Whereas her sales to Denmark and Sweden in 1924 were insignificant, she made serious inroads upon the British trade in these two countries in 1925.²¹ During the first four months of 1926 (prior to the British coal strike) her shipments to Denmark and Sweden approximated 700,000 tons.²²

British coal has a competitor also in the hydro-electric power of Norway and Sweden. These countries together have a potential capacity of some 17,500,000 horse power,²³ which is equal to an annual

¹⁹ This was the average for the years 1909 to 1913. Royal Commission on the Coal Industry (1925), *Report*, Vol. I, p. 5.

²⁰ Of the additional 1,000,000 tons imported, 385,000 tons came from Germany.

²¹ U. S. Department of Commerce, Bureau of Domestic and Foreign Commerce, Minerals Section, *Special Circular* No. 348

²² *Ibid.*, "The Overseas Coal Export Situation," September, 1926. There is a probability, too, that the not distant future will see the building of a canal system from the Silesian fields to the Vistula and direct water transportation to the Baltic.

²³ U. S. Dept. of the Interior, Release No. 687, March 31, 1925.

consumption of 60,000,000 tons of coal, or approximately nine times their present coal needs. It is improbable that all or any large portion of this energy will ever be harnessed. By developing only a relatively small part of it, however, sufficient power would be available to replace the larger part of current coal imports.

By 1924 Norway and Sweden had developed 1,820,000 and 1,416,000 horse power respectively. This development represents a growth of 1,000,000 horse power for Norway since 1913, and almost 500,000 horse power since 1920. For Sweden it means an increase of 700,000 horse power in ten years. These increases may to a large degree be accounted for by the war-time scarcity of coal and the high prices that prevailed from 1919 to 1923. Conditions in these countries, however, point to the probability of a further increase in hydro-electric development. This is particularly true of Norway where large electro-chemical and electro-metal-lurgical industries have grown up because of available cheap electricity. Indeed, over 42 per cent of the hydro-electric power generated in 1922 was used by such industries. Similarly, the wood products industry has become increasingly dependent upon hydro-electric energy, and its consumption in turn comprised over 12 per cent of the total generated in 1922.²⁴ Furthermore, some 4,800,000 undeveloped horse power—44 per cent of the total—is so located as to be close enough to give wharfage and cheap export facilities to any indus-

²⁴ *The Transactions of the First World Power Conference*, London, 1925, Vol. I, p. 1073.

try locating within a short distance of a power station.²⁵

In Sweden the coal burning power plants which formerly dominated the market for electricity are now used chiefly to supplant hydro-electric power stations. "It is not to be expected that such stations will be built in the future, except where refuse fuel is available or where exhaust steam is needed for heat."²⁶ In fact, the Swedish government has established a hydro-electric power loan fund to be used for granting loans for the construction, not only of hydro-electric power stations but also of power transmission lines.²⁷

Though the newly-developed hydro-electric energy is being at present consumed in considerable measure by newly-established industries and for newer uses such as household lighting and power, the probability is that many of the older established industries which now use power generated by imported coal will gradually shift to the use of power hydraulically generated. Gas and coking coal will no doubt continue to be used in slowly increasing quantities, and steam coal for stand-by plants, to supplement the hydro-electric stations, will be used in approximately the same quantities as at present. At best, however, no sudden increase in coal consumption can be looked for.

But the Scandinavian market, whether it increases or not, will hardly be free to Great Britain alone. Even with the aid of the subsidy the British coal

²⁵ *Ibid.*, Vol. I, pp. 1070-1076.

²⁶ *Ibid.*, Vol. I, p. 1330.

²⁷ *Ibid.*, Vol. I, p. 1333.

industry was unable to check the growing sales of its Polish and German competitors. The Scandinavian countries will no doubt always buy certain types of coal from Great Britain, but if England attains even her former quota of sales she will have to do so in the face of a most strenuous competition.

4. ITALY

The forces which threaten the future of the British coal trade in Italy are in many ways similar to those in Scandinavia. In spite of the growing consumption of coal in Italy, British sales to this market have been falling. As compared with 90 per cent of the Italian coal imports (some 8,600,000 tons) which in pre-war years came from Great Britain, only a little more than half, 5,811,000 tons, came from England in 1924. In 1925, receipts from Great Britain were 6,961,000 tons or 63 per cent²⁸ of the total coal imports into Italy. The loss of this market is not to be explained by a falling off in the coal consumption of the Italian people. During recent years Italy's consumption has been slowly increasing. In 1924, she used 10,686,000 tons of foreign coal; in 1925, 11,031,000 tons.²⁹

The loss of Italian markets is in large part due to the increased consumption of German coal. More than one-third, some 3,600,000 tons, of Italy's coal imports in 1924 consisted of reparation coal. Although reparation receipts in 1925 fell to 1,700,000 tons, private sales from Germany increased by about

²⁸ *Colliery Guardian*, April 16, 1926, p. 919.

²⁹ Of the latter figure 434,000 and 380,000 tons, respectively, were for Trieste and Fiume. Royal Commission on the Coal Industry (1925), *Report*, Vol. I, p. 253.

750,000 tons.³⁰ These combined receipts of 2,450,000 tons were about 1,500,000 tons greater than those of pre-war days. Imports from the United States likewise increased by some 500,000 tons in the same period.³¹ The Italian state railways have been using a considerable amount of reparation coal, and current figures lead to the conclusion that receipts for the railway in the future will be at a higher rate than in the past.³² Recent reductions in through overland freight rates from the German coal fields to Milan should also stimulate private shipments of German coal.

German coal, both reparation and private, will for a long time be an important factor with which the British product will have to contend in the Italian market. Recently Poland also entered the field as a competitor, and although her shipments to Italy in 1925 were but 70,000 tons, a contract with the Italian railways assures her an annual market of 250,000 tons for the near future.³³

As in Norway and Sweden, the development of hydro-electric power in Italy appears thus far to have had no unfavorable effect upon coal consump-

³⁰ *Colliery Guardian*, April 16, 1926, p. 919.

³¹ It is of interest to note that Italy consumed over 2,300,000 tons of American coal during the European coal shortage of 1920.

³² *Colliery Guardian*, August 13, 1926, p. 364.

³³ Poland has recently made an agreement with Italy for the annual delivery of up to 500,000 tons of coal. In return Poland granted to Italy special concessions in the matter of the import of Italian oranges. This agreement permits Poland to ship sufficient amounts of coal to Italy to secure the minimum transit railway rates on the Austrian railways. Bureau of Foreign and Domestic Commerce, U. S. Department of Commerce, Minerals Section, *Special Circular* No. 348, August 21, 1926.

tion. During the past eleven years 1,831,000 horse power has been developed. The total in use in 1925 has been estimated to be 3,200,000. The fact that coal consumption has been increasing in spite of this large development has been used by many as evidence of the fact that future hydro-electric development in Italy should have no effect upon British exports. The validity of this contention can be determined only by what transpires in the next few years. Yet one cannot help but raise doubts as to its soundness. Plans already approved by the Italian Superior Water Council provide for the generation of some 6,000,000 horse power of hydro-electric energy. Because of financial and transmission difficulties many years will no doubt pass before this energy will be available all the year round. But it is hard to believe that these developments will not supplant some of the coal now consumed.³⁴ The growing electrification of the state railway system which now consumes each year some 2,000,000 tons of coal, will in itself be a factor of considerable consequence. Indeed, only recently the coal purchasing office of the Italian state railways which existed at Cardiff for twenty years has been shut down.³⁵

The supposition that Italy will continue to consume coal at her present rate in spite of the growth of hydro-electric power will prove valid only if Italy

³⁴ "If only half of this were developed and used on the present basis of efficiency, it seems that the independence of Italy in regard to fuel supplies for most purposes will be assured." Sargent, A. J., Royal Commission on the Coal Industry (1925), *Minutes of Evidence*, Sixteenth Day, p. 4.

³⁵ *Manchester Guardian Commercial*, April 30, 1925, p. 16.

undergoes an industrial revolution on a scale such as has never been known in her history. Such a change in the life of Italy, coupled with a change in the standard of living of her people, would increase even further her consumption of fuel. Signs are not wanting that a beginning has been made. How far it can go is a matter of speculation.³⁶

It is certain that in the near future Great Britain cannot expect to approximate her pre-war coal sales to Italy. She may have no difficulty in maintaining an Italian market as large as that of the past two years, but with hydro-electric power, German, Polish and Russian coal to contend with, to look to Italy as one basis for the future rehabilitation of the coal trade is to build on very uncertain ground.

5. THE SMALLER MARKETS

The less important markets of South America, Russia, Spain, Egypt, and Holland have likewise reduced their purchases of British coal. As compared with the five years ending 1913, sales to South America in 1925 decreased by 2,217,000 tons; to Russia by 3,184,000 tons; to Spain by 550,000 tons; to Egypt by 952,000 tons; and to Holland by 638,000 tons.³⁷

The declining sales to South America and Russia have been in large part the result of a decline in the coal consumption of these countries. The total

³⁶ See McGuire, C. E., *Italy's International Economic Position*. (Investigations in International Economic Reconstruction, Institute of Economics, Washington), 1926, Chapters VI, XI and XII.

³⁷ Royal Commission on the Coal Industry (1925), *Report*, Vol. I, p. 5.

imports of the larger coal-consuming countries of South America—Argentina, Brazil, Uruguay, and Chile—have fallen off by over 2,000,000 tons since pre-war years. This is in large measure to be accounted for by the enlarged use of domestically produced fuel oil, and in part by slackened industrial conditions. There has also been some increase in the coal output of Chile,³⁸ and British coal has been supplanted to some extent by shipments from the United States. The latter, however, have not been very large.

It is rather probable that the future will see a revival of British exports to South America. A shifting from fuel oil to coal is indeed already evident. Moreover, a very large amount of wheat, meat, and leather consumed in Great Britain comes from South America, and since British ships must call at the eastern ports of the continent for these materials it will be profitable for them to carry coal on the outward journey at very low freight rates. Finally, South America has long been a popular area for British investments, and some of the railways and industries of the Argentine have been built up with British capital and are British controlled. These will probably continue as in the past to give preference, whenever possible, to British coal.

The consumption of coal in Russia has been diminished in recent years by the disorganization of its industry. It is estimated that in 1925 she consumed

³⁸ In order to stimulate domestic production and protect its coal mining industry the Chilean Government has imposed an import tax on foreign coals.

13,000,000 fewer tons of coal than in pre-war years. But disorganization is not the only factor that accounts for the fall of British imports from 4,112,000 to 927,000 tons. Russia has been trying hard to develop her own coal fields and accordingly has placed obstacles upon the importation of foreign fuels. It is said that her production is now ahead of her needs.³⁹ She has recently been seeking foreign outlets for her product, and in 1925 about 160,000 tons of Russian coal were shipped to Italy.⁴⁰ Reasons of state have also interfered with the revival of the British coal trade in Russia. One evidence of this fact is Russia's exclusion from the operation of the British Exports Credits Scheme, through which the British Government guarantees bills drawn against goods for export.

As conditions become stabilized Great Britain may retrieve some of her lost Russian markets. But she will have to meet the competition of newly equipped Russian mines which in the six months ending April, 1926, produced 12,400,000 tons of coal, an amount equal to 91 per cent of their 1913 output,⁴¹ as well as the competition of a newly developed electric power system which is using peat and hydro-electric energy at a saving of some 5,000,000 tons of coal per year.⁴²

The recent development of the Spanish coal

³⁹ Clark, Sir Wm. H., Royal Commission on the Coal Industry (1925), *Minutes of Evidence*, Fourth Day, p. 99.

⁴⁰ *Colliery Guardian*, April 16, 1926, p. 99.

⁴¹ *Ibid.*, July 3, 1926. According to reports from the Don Basin some \$40,000,000 was spent in 1926 to equip 13 large new shafts which are shortly to be opened.

⁴² *Ibid.*, Feb. 12, 1926, p. 388.

fields ⁴³ which are protected by a tariff on imported fuels, and a recent governmental decree ⁴⁴ requiring the navy, the railroads, the metallurgical trade, the gas, electrical, textile, sugar, and other industries, to use a certain minimum of Spanish mined coal, promises to put a check upon the revival of British shipments to Spain.

As for Egypt, present conditions in the coal trade are primarily the result of the substitution of fuel oil for coal, both for bunkering purposes and internal consumption, though some 600,000 tons are to be accounted for by losses to Great Britain's competitors.⁴⁵ In Holland the important factor has been an increase in domestic production which has raised the Dutch pre-war output of approximately 2,000,000 by some 6,800,000 tons within the past twelve years.⁴⁶

How much of her lost markets Great Britain can regain is problematical. Increased efficiency and lowered wages may cut British costs and make it possible for her mining industry to regain through lower prices some of her former customers. But one thing is certain, there is little probability of her entirely regaining her markets in the calculable

⁴³ Spanish production in 1925 and 1926 equalled about 6,500,000 tons of coal, or about 4,000,000 more than in 1913. "Coal in Spain in 1926," U. S. Department of Commerce, Bureau of Foreign and Domestic Commerce, Mineral Section, *Special Circular*, No. 607.

⁴⁴ *Colliery Guardian*, March 19, 1926, p. 685.

⁴⁵ Gowers, E. A., Royal Commission on the Coal Industry (1925), *Minutes of Evidence*, First Day, p. 7.

⁴⁶ The Dutch production in 1926 approximated 9,000,000 tons.

future. This is particularly true of her customers in western Europe and in Russia. The future of the British export coal trade must rest upon something more tangible than the expectation of the coal owners, who see no reason to believe why, when coal can be sold at a price which will create a demand, they ought not to increase their exports to something in excess of 5 per cent over 1913.⁴⁷

As far as exports are concerned, therefore, the present crisis in British coal is more than a temporary phenomenon. It is unlike preceding crises in which temporary dislocations of foreign markets brought difficulties to the coal trade. A new set of conditions has arisen. Many of England's customers have turned to the development of their own coal resources. Great Britain must now cope with new coal producers and with the growth of old producers in lands beyond the seas. The three continents of Asia, Africa, and Australia are producing 23,000,000 more tons of coal than they did before the war, an

⁴⁷ The Comité Central des Houillères de France "estimates that during the 27 weeks of stoppage in British collieries, the lack of production amounted to about 117 million tons. This diminution is partly covered by a notable increase of the Continental extraction which we may value at 30 million tons, of which 12½ million tons were contributed by Germany, 6½ million tons by Poland, 4½ million tons by France, 2¼ million tons by Belgium, nearly 2 million tons by Holland, 1¾ million tons by Czechoslovakia, and 700,000 tons by the Sarre. This excess of production compensated almost exactly for the loss on British exports, which fell from 50 million tons in 1925 to 20 million tons in 1926, Europe's part having respectively fallen from 36 to 14 million tons. Without taking into account the 14 million tons supplied by the United States toward the reequipping of Europe—chiefly to Great Britain—it is easy to see that the increase of production in Central Europe made up for the British failure, and this explains how this failure did not have the results expected by many." *The Colliery Guardian*, Vol. 133, No. 2457, April 1, 1927, p. 751.

amount equal to almost one-fourth of Great Britain's maximum exports. In addition, the production of Germany has increased by some 8,000,000 tons, that of France by 3,000,000 tons, and that of Holland by over 6,000,000 tons. These and other countries have also developed substitute sources of power, namely, lignite, fuel oil, and water power.⁴⁸ Consequently, while the production of British coal has decreased by some 25,000,000 tons since the five years preceding the World War, production elsewhere has increased by 100,000,000 tons. About 50,000,000 tons of this increase is, to be sure, to be accounted for by the growth of the American coal industry, which has never been a formidable competitor in the world's markets. The remaining 50,000,000 tons, however, has brought disaster to Great Britain. Though she is still the world's largest exporter her contribution to the world's consumption has decreased both absolutely and relatively. She supplied almost one-tenth of the world's consumption (outside of the British Isles) in pre-war years; to-day she furnishes but one-fourteenth.⁴⁹

III. THE LOSS OF THE BUNKER TRADE

In addition to the loss of exports there has been a significant decline in the sale of British coal to the shipping trade for bunkering purposes. Some of this decline has been felt in the form of decreased sales to foreign bunkering countries, namely, Egypt, Ceylon, Malta, and British India. But this amount

⁴⁸ The increase in hydro-electric power generated in Europe since 1921 approximates 50 per cent. "The World's Water Power," *The Economist*, July 17, 1926, Vol. 103, No. 4325, p. 106.

⁴⁹ Royal Commission on the Coal Industry (1925), *Report*, Vol. I, p. 9.

has been small as compared to the decline in the quantity of coal sold as bunker at British ports. Sales for this purpose in 1925 amounted to 16,200,000 tons, as compared with 19,600,000 tons in pre-war years. Part of the loss is the direct result of the decline in coal exports, for the ships that convey export coal require as fuel 2.7 tons of coal for every 10 tons they carry as cargo. The larger part is due, however, to the conversion of a large portion of the merchant marine from coal to oil burners. The gross tonnage of ships fitted to burn fuel oil has grown during the past twelve years from 1,500,000 to 20,500,000 tons, a loss of sales to the coal trade estimated at approximately 42,000,000 tons. At the same time there has developed a movement toward the construction of motor ships propelled by internal combustion engines, and the records of construction show that one-half of the tonnage now being built in the different parts of the world is of that character.⁵⁰

Though the growing use of motor ships bids fair to make increasing inroads into the bunker trade it is at the same time rather probable that in the not distant future some of the loss of coal to fuel oil in shipping will be recouped. As the price of fuel oil increases, some oil burners will no doubt revert to coal. But this will be true of only a limited amount of shipping. The ease of storing supplies and the ease and quickness of fueling with oil have resulted in the permanent loss of the world's navies to coal. This loss in sales to the British Navy alone amounts

⁵⁰ Glover, Sir Ernest, Royal Commission on the Coal Industry (1925), *Minutes of Evidence*, Twenty Fifth Day, p. 4. Cf. also *The Ministry of Labour Gazette*, April, 1926, p. 123.

to 1,500,000 tons per year, valued at approximately £1,547,300. A similar condition applies to the bigger passenger and freight liners, where the rising price of fuel oil will continue to be offset by savings in the size of crew and by other advantages such as larger cargo space and cleanliness. Moreover, it is estimated that only 8,000,000 tons of the existing oil burning ships can revert to coal without undergoing an expense greatly out of proportion to the savings to be secured from such conversion.⁵¹

One cannot say with any definiteness, however, whether the price of fuel oil will increase sufficiently to allow coal to regain any extensive portion of its lost sales to the bunkering trade. As the world's supply of crude oil decreases, some rise in fuel oil prices will in all probability follow; but it must be remembered that the essential factor in the crude petroleum industry is gasoline (petrol), and that fuel oil is a by-product whose production is largely determined independently of the price of its substitute, coal.⁵² Being a by-product which is a residual from the distillation of gasoline its market price will continue to be fixed by the value of competing fuels. Consequently, any prohibitive rise in the price of fuel oil in the near future is rather improbable.⁵³

⁵¹ Holt, R. D., Royal Commission on the Coal Industry (1925), *Minutes of Evidence*, Twenty Fifth Day, p. 25.

⁵² It is of significance to note that in recent months the tendency to revert from fuel oil to coal has brought about a fall in fuel oil prices.

⁵³ It should be borne in mind that as the price of gasoline (petrol) rises, there will probably be a greater tendency to resort to "cracking," a procedure which makes it possible to get a larger amount of gasoline from the crude petroleum. As the supply of crude petroleum becomes scarcer more of it will go into gasoline and less into fuel oil. In that event the competition of those

It is through the lowering of the price of coal that the real impetus to the reconversion of present oil-burning ships must come. Such an expedient might revive in part the demand for coal for shipping purposes, but even in that event there would be no definite assurance that fuel oil prices would not adjust themselves to the new conditions.

IV. THE PLIGHT OF THE DOMESTIC MARKET

The revival of the coal trade will in large measure be dependent upon the condition of Great Britain's internal market. It is here that the bulk of the coal output—175,400,000 tons in 1925—is consumed and it is here that the consumption of coal has undergone but little decline. The 1925 coal consumption of British industrial and household users was about 3 per cent less than the average for 1909 to 1913.⁵⁴ In contrast to the loss of over 20,000,000 tons in the export and bunker trade, the decrease of consumption in the home markets was but 5,000,000 tons.⁵⁵

This loss is to be explained almost entirely by the condition of the British iron and steel industry. The

users of fuel oil who find distinct advantages in a liquid fuel—the navies of the world, for example—will no doubt send its price to higher levels.

⁵⁴ Royal Commission on the Coal Industry (1925), *Report*, Vol. III, p. 9. Though this loss is relatively slight when considered *in toto* it becomes very significant when looked at in the light of the growth of population. The fact is that total consumption fell while the population was increasing. In terms of the consumption per head of population the decrease was actually 9 per cent.

⁵⁵ This is not an exact figure as no precise information is available as to the amount of stocks on hand at the beginning and end of the year.

fall in coal output led, as was to be expected, to a decline in the fuel consumption of the mining industry itself, a decline which approximated 1,400,000 tons. The important loss, however, occurred in the iron and steel trade, whose annual output of pig iron has decreased by over 4,000,000 tons since the pre-war years.⁵⁶ This in turn has meant cutting the consumption of coal in the iron industry by over 7,000,000 tons. All other British industries, as well as household users of coal, appear to have maintained their earlier position as coal consumers; some few indeed have been taking increasing quantities of coal, thereby offsetting losses in the iron trade. The electrical industry, for example, has increased its consumption of coal by some 3,000,000 tons, while the railways have taken some 300,000 additional tons.

As far as the home demand is concerned, one must look to the development of the electrical industry as the most probable source of aid. Little can be hoped for immediately from the iron and steel trades, which in former years used over 11 per cent of the coal output in the production of pig iron and were second only to the manufacturing and household users as coal consumers.

The probability of a revival of the pig iron industry is primarily involved with the future of ship building and that of the fabricated steel trades. At the moment, ship building shows little sign of being able to render help. During recent years the world's shipping tonnage which increased from 45,404,000

⁵⁶ *The Economist*, March 6, 1926, Vol. 102, No. 4306, p. 453.

tons in 1914 to 62,670,000 tons in 1925,⁵⁷ has experienced difficulty in securing sufficient cargoes to keep available ships occupied.⁵⁸ Consequently the production of new tonnage has been at a low ebb. New merchant vessels under construction at the end of June, 1926, amounted to 841,000 tons, or about 40 per cent of the capacity of the British ship yards. This figure represented a decline of over 1,000,000 tons in ship construction since 1914 and is lower than any figure recorded since 1909.⁵⁹

As for the engineering (heavy steel) trade, much ground will have to be covered before it will be in a position to do much to alleviate conditions in coal mining. Though the production of steel is some 750,000 tons in excess of the average of the pre-war years 1909-1913, it nevertheless falls short of Great Britain's 1913 output by 250,000 tons. Indeed, it has been estimated that the production of the engineering trades in 1925 was but 93 per cent of that of 1913.⁶⁰

That the problem of the iron and steel trade has been primarily one of an inadequate world demand is evidenced by the fact that European production of steel ingots and castings has actually fallen below that of 1913. Indeed the United States, France, and Luxemburg are the only countries that have to any appreciable extent increased their output.

⁵⁷ These figures include steamers and motor ships only, and do not provide for sailing vessels. *Board of Trade Journal*, Vol. 117, No. 1547, p. 132.

⁵⁸ Estimates place the amount of idle British shipping before the coal strike at over 1,100,000 tons.

⁵⁹ *Board of Trade Journal*, Vol. 117, No. 1545, p. 74.

⁶⁰ *The Economist*, March 6, 1926, Vol. 102, No. 4306, p. 454.

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PRODUCTION OF PIG IRON, STEEL INGOTS, AND CASTINGS,
1913, 1924, and 1925 *
(In thousands of tons)

Country	Pig Iron			Steel Ingots and Castings		
	1913	1924	1925	1913	1924	1925
United Kingdom.....	10,260	7,307	6,236	7,664	8,201	7,397
Germany.....	16,499	7,690	10,019	17,334	9,682	12,003
France.....	5,126	7,573	8,339	4,614	6,792	7,299
Belgium.....	2,446	2,764	2,502	2,428	2,816	2,373
Luxemburg.....	2,508	2,123	2,307	1,305	1,857	2,050
Saar.....	(a)	1,327	1,450	(a)	1,453	1,575
United States.....	30,966	31,406	36,394	31,301	37,932	44,196
Estimated Total World Production.....	78,500	67,000	75,000	76,000	77,500	87,000
Production of Western Europe.....	36,839	28,784	30,853	33,345	30,811	32,697

* *The Economist*, March 6, 1926, p. 454.

(a) Included in Germany.

The problem of the future centers in Great Britain's ability to cope with her competitors in foreign fields. Prior to the spring of 1926 her exports of iron and steel had already fallen by 1,200,000 tons as compared with 1913, and her imports had increased by almost 500,000 tons. This occurred in spite of the fact that the British price of steel plates and heavy rails, two typical staple products of the industry, had fallen to the point where they approximated their 1913 level.

SELLING PRICE OF HEAVY STEEL PRODUCTS, F. O. B. WORKS *

	1913			March 31, 1925			Sept. 30, 1925		
	£	s.	d.	£	s.	d.	£	s.	d.
Basic Pig Iron...	2	18	10	3	18	0	3	6	0
Plates	7	10	0	8	10	0	7	10	0
Heavy Rails	6	12	6	8	7	6	7	7	6

* Data presented by Larke, Sir William, Royal Commission on the Coal Industry (1925), *Minutes of Evidence*, Third Day, p. 50.

The loss of exports and increase of imports occurred in face of the fact that Great Britain's steel making capacity increased by 50 per cent during the period under review. With the capacity of Germany, France, and Belgium much greater than ever before,⁶¹ and with the producers of these countries banded together to eliminate commercial warfare in the world market, severe competition in the export steel trade will in all probability be the order of the future.

Partial solution of the problems facing the iron and steel industry may be found in Great Britain's joining her competitors in the recently formed cartel which provides for the allocation of the world's markets. Such contingency has long been talked of and is not outside the realm of possibility. It might stabilize steel prices; yes, even raise them. It would not, however, necessarily increase Great Britain's output. Nor would it protect Great Britain against the growing production of such countries as India, which in the past year was able to invade American markets with 184,325 tons of pig iron, an amount twice as great as was received from Great Britain.⁶²

If "it is only to the revival of these heavy industries [iron and steel] that the coal mining industry can look for any substantial increase in the home demand for coal,"⁶³ the immediate future of the coal

⁶¹ German capacity has increased by 40 per cent, French 25 per cent, Belgian 30 per cent. "The Plight of the Iron and Steel Industry," *The Economist*, March 6, 1926, p. 454.

⁶² On February 23, 1927, a Presidential proclamation increased the duty on pig iron imported into the United States from 75 cents to \$1.12½ per ton. This proclamation was aimed at imports of pig iron from British India.

⁶³ Royal Commission on the Coal Industry (1925), *Report*, Vol. I, p. 12.

industry as far as inland consumption is concerned is indeed black. To be sure the iron and steel trade, if working at capacity could consume 37,000,000 tons of coal a year and thereby in large part fill the gap created by lost coal exports. But present conditions do not indicate that any such revival can come to pass in the immediate future.

Coal prices, the insistence of the coal owners notwithstanding, will not be the dominating factor in the iron and steel revival. The cost of coal in producing a ton of pig iron—and coal accounts for 35 to 40 per cent of the sale price of pig iron—is already approximately the same as in 1913.⁹⁴ Judging from the statements of the iron and steel industry's spokesman, Sir William Larke, the present price of coal, as far as the iron and steel producers are concerned, is quite satisfactory. Indeed, Sir William has gone so far as "to express the hope that coal prices will remain at their present level at least."⁹⁵ If there is to be a revival of the internal consumption of coal it appears that it must come immediately from other sources than the steel industry.

Any revival in the internal consumption of coal will in all probability come from the electricity industry. But even here the increased demand for coal will hardly make up for the loss in other markets. The consumption of coal by electricity works

⁹⁴ The cost of the coal consumed in producing a ton of pig iron in 1913 averaged 24s. 3d. During the quarter ending September 30, 1925, the cost of the coal used averaged 24s. 9d. per ton of pig iron produced. Larke, Sir William, Royal Commission on the Coal Industry (1925), *Minutes of Evidence*, Third Day, p. 50.

⁹⁵ Larke, Sir William, Royal Commission on the Coal Industry (1925), *Minutes of Evidence*, Third Day, p. 51.

is steadily increasing and the future will no doubt see a progressive rate of growth. The British electrical industry is still in the formative stage. The annual consumption of electricity is only about 220 kilowatts per head of population. In Sweden and Switzerland consumption averages more than three times this amount and in the United States it runs well above 500 kilowatts.⁶⁶ If the estimates of the electrical authorities prove true the next 15 years should see the development of electricity generation to the point where the British consumption equals 500 kilowatts per head. This should increase the consumption of coal in electricity works to about twice that of the present.⁶⁷ This estimate assumes, however, an efficiency somewhat less than that which is today attained in the best of Great Britain's power plants. If the efficiency of power generating plants increases in the near future, and the facts point in that direction, the consumption of coal by electricity works will be increased by considerably less than 8,000,000 tons in the next 15 years. This means at the outside an average increase of no more than 500,000 tons a year, an amount of little significance when compared to the total decline in the nation's coal production. Moreover, as the supply of electricity from central stations increases, the fuel consumption of existing industrial plants may be expected to fall. For private industry will tend to purchase more and generate less of the power it uses. In other words, the total gain in coal consumption arising from the increased use of electricity

⁶⁶ Snell, John, Royal Commission on the Coal Industry (1925), *Minutes of Evidence*, Ninth Day, p. 250.

⁶⁷ *Ibid.*

will be offset in part by the decline in the direct consumption of the manufacturing trades.

The domestic market, in short, presents but limited prospects for the future of the British coal industry. There is little possibility of a growth in the consumption of coal equal to that of the first decade of this century. With a revival in the engineering and manufacturing trades Great Britain will no doubt approximate her coal consumption of the pre-war years. But the position of her competitors in the iron and steel trades makes improbable, for the near future at least, any growth in the internal use of coal which could go very far toward helping the mining industry out of the depression which now engulfs it.

Foreign consumers, the shipping trade, and the internal market all hold little hope for the near future of the British coal trade. Some foreign markets will undoubtedly be regained; likewise some of the bunkering trade will be recovered. Each may play a part in reviving the industry. If developments both in England and overseas are any index of what may be looked for, however, the industry will in all probability have to adjust itself to a new status. A return to its status of 1913 is rather improbable.⁶⁸ A rate of growth approximating that of pre-war years is far beyond reasonable expectation.

⁶⁸ The depletion of stocks in Great Britain and in some of her foreign markets, resulting from the long strike of 1926, temporarily stimulated production to the point where it approximated that of the years 1924 and 1925. But there are no evidences which would justify the expectation that this revival will be long continued.

If the export market for British coal is to be permanently curtailed, is this a cause for despair? Can the coal industry, even with its markets restricted, become a paying venture? Is it possible to find a solution of the coal problem through the cutting of production costs? Could the costs be cut to a point which would enable the industry to prosper with its present curtailed sales at the prevailing price level?

It is evident that an attack on costs can be made from several directions. One is by way of the labor contract, another is through instituting technical economies in production and distribution, a third is by capturing for the mining industry many of the products of coal which are today dissipated in wasteful utilization. These possible alternatives will form the subject of discussion in the two chapters to follow.

CHAPTER X

THE TRADITIONAL WAY OUT

To the mine owners the problem of solving the difficulties which beset their industry is a relatively simple one. Their solution, to be sure, is in no sense new. But the fact that the solution is not novel is not in itself to be deplored. Although the owners' "devotion to pre-historic formulæ" has been ridiculed in certain portions of the English press, old formulæ are as good as new ones provided they work as well. It will be generally agreed that the owners' solution is the result of no momentary caprice. It follows logically from their well-formulated and coherent economic creed. This creed, as we have seen, arms them with a faith and provides them with a program. Moreover, the logic of the creed contains within itself an interpretation of the difficulties which now beset the industry, and suggests the barriers which must be swept away if the coal trade is again to function successfully.

In surveying the complex forces which have brought the coal industry to disaster the owners have found the high cost of coal to be the one outstanding factor which has disorganized the British market. "This is the crux of the matter which nothing ought

to be allowed to obscure." It is the high coal prices which have checked the consumption of coal by British industry and which have constituted the chief barrier to improvement in the export trade.¹ The owners have found these high prices to be due to "a large number of causes" which "have contributed successively and in many instances contemporaneously to reduce a progressive industry to a thoroughly unhealthy state."² Most important among these causes has been the war. Coal in common with all other industries has suffered from the economic consequences of the four year struggle. But even more disastrous were the years of government control from early in 1917 to March, 1921—years which the owners hold primarily responsible for the downfall of the healthy industry. During this period there was a fall in the output per person employed and an increase of wages. As the owners point out, "opinion may differ as to precisely how far the destruction of the prosperity of the industry was due to government control and how far the difficulties of the government were aggravated by war conditions."³ They also point out that decontrol did not take place until nearly two and one-half

¹ "No remedy, however simple or alluring, will solve the problem in this country, either temporarily or permanently, or enable British industry to share in any world trade revival unless it enables cost of production to be such that coal itself and manufactured products can be sold at the prices obtainable in the world's markets. The evidence has made it abundantly clear that costs of production are too high. This is the crux of the matter which nothing ought to be allowed to obscure." Royal Commission on the Coal Industry (1925), *Minutes of Evidence*, Thirty First Day, p. 6.

² Royal Commission on the Coal Industry (1925), *Minutes of Evidence*, Twelfth Day, p. 333.

³ *Ibid.*, Twelfth Day, p. 336.

years after the end of the war during which period "the state of the industry went from bad to worse." ⁴

The prosperity of the industry has been further menaced, according to the owners, by propaganda of the Miners' Federation. Since 1913 particularly, the miners have allowed their "political aims to shape their industrial policy"—"resulting in conditions of working being imposed on the industry which are inimical to its development and prosperity." ⁵ This indictment has reference chiefly to the seven-hour day and the wage agreement of 1924 which increased minimum wage rates to approximately 10 per cent above those of the 1921 agreement. ⁶

⁴ The many factors involved in wartime control have been already discussed. One has but to remember the extraordinary demands made upon the industry in the period of the war emergency—the pressing needs of the munition works, the development of needed by-products, the requirements of essential industries, the need for an exportable surplus for Allied demands, at a time when miners were enlisting or being drafted for service. The rating as to success or failure must be in terms of these specified war purposes. A strictly commercial judgment is only partially relevant. After the war, particularly in 1919, the owners' uncertainty as to the ultimate fate of the mines "undoubtedly retarded the development of existing concerns and prevented the carrying out of new projects." (See Redmayne, Sir R. A. S., *British Coal Mining Industry During the War*, Oxford, 1923, p. 268.) This failure to make good the wartime arrears, together with the general spirit of unrest after 1918, undoubtedly kept the industry in a backward state until 1921, when decontrol was suddenly brought about. The identification of a permanent form of organization with such control is as false as the identification of the scaffolding with the building which finally emerges. Relying on the motives and to a large extent the existing machinery and personnel of the industry, control introduced a set of baffling restrictions both in regard to production and distribution.

⁵ Royal Commission on the Coal Industry (1925), *Minutes of Evidence*, Thirty First Day, p. 2.

⁶ Limiting the hours of labor to seven hours, plus one winding time, cannot be ascribed wholly to a destructive policy on the part of the miners. The shortening of the working day was due to a growing realization on the part of many members of the

All of these factors have served in one way and another to contribute to "the root cause of the severity of the depression in the coal industry"—the high price of coal. The chief problem to be faced is that of regaining the markets and this in turn resolves itself into a problem of prices. Lower prices are contingent upon lower production costs and lower production costs are dependent upon—what? The owners have categorically rejected the possibility of appreciable economy either through structural changes in the industry or through more efficient management.⁷ They have rejected, also, the possibility of economy in the cost of administration and other items over which they have immediate control. They have been driven, therefore, to "securing a reduction in cost of production through an increase in the rate of output per person" and through lowered wages. Only by these expedients, they have maintained, is it possible to extricate an industry fallen upon hard times without resorting to the state for assistance.

A return to the eight-hour day was considered the community of the needs of the miners. Even the representatives of the owners who composed one-third of the 1919 commission felt that since "the hours of labor are being shortened in many industries at present it is only natural that the miners should expect to have some reduction in their hours of work" (see Coal Industry Commission, Vol. I, p. xxiii, 1919), and joined in the unanimous suggestion to Parliament to enact a seven-hour law for the industry. As to the 1924 wage agreement, it must be borne in mind that the 1921 agreement "failed to provide an adequate wage in many of the poorer districts, and that the wages of day-workers and certain piece-workers under the agreement were substantially less than the equivalent of their pre-war earnings." See Court of Inquiry Concerning the Wages Position in the Coal Mining Industry, *Report*, 1924, Cmd., 2129.

⁷ For complete account of the owners' attitude toward measures of reform see Royal Commission on the Coal Industry (1925), *Minutes of Evidence*, Twelfth Day and Thirty First Day.

first step in a sound policy of restoration. Lengthening hours, it was maintained, "will benefit the worker by securing for him a larger volume of trade, steadier employment and larger earnings than are possible if the existing conditions continue."⁸ It would also enable British coal to compete more successfully with the foreign coal mined under a system of longer hours and lower wages. Whether this return to a longer working day "is to be regretted or not from a social standpoint may be a matter of opinion; but hours of work are not finally determined by theories as to social conditions that ought to obtain in any country. . . ."⁹ In the last resort the number of hours to be worked is a matter of individual and national necessity. Although a longer working day would not be a complete remedy it "supplies a necessary ready and self-evident part-solution which no other proposed remedy provides."¹⁰

Lengthening the hours of work and increasing the output would not, however, be sufficient. Wage reductions were also required. Such reductions must vary with the needs of individual districts, for national agreements, the owners believe, make impossible the adjustment of wages to local conditions.¹¹

This reasoning rests upon questionable assumptions. It lays great emphasis upon the elasticity of the demand for coal, insisting that the consumption

⁸ *Ibid.*, Thirty First Day, p. 5.

⁹ *Ibid.*, p. 5.

¹⁰ *Ibid.*, p. 5.

¹¹ The owners further recommended a 25 per cent reduction in transport and dock charges to be made possible by a reduction in the wages of railway and dock workers whose wages they found out of proportion to the wages of workers in the great producing industries.

of coal is primarily a function of its price, and that lower prices will, therefore, bring a considerable expansion in the fuel consumption of British industries.¹² Lower coal prices will, they assert, also stimulate the export trade so effectively that the extra product which would result from a return to the longer hours could be easily disposed of.¹³

A further assumption is that the new conditions which have appeared in the world's coal markets during the past few years are essentially transient. The owners do not greatly fear the competition of oil, nor the development of hydro-electric power. "With the cost of coal sufficiently reduced the future

¹² In the words of the coal owners, "In 1913 the country absorbed either by export or inland consumption 287,000,000 tons of coal, which worked out at something like four tons per head of the population per annum. The tendency is bound to be all over the world to increase the consumption of coal per head of population. If you take the same consumption per head for the present population you get an addition of 5 per cent to your inland consumption, and we see no reason to believe why, when coal can be sold at a price which will create a demand—because there is no doubt that a cheap supply does create a demand—we ought not to increase our export in something like the same proportion, and if you add 5 per cent to the output of 1913 you get a figure something in excess of 300,000,000 tons." Royal Commission on the Coal Industry (1925), *Minutes of Evidence*, Thirty First Day, p. 40.

¹³ "With a reduction in costs in this way the demand for coal is bound to be stimulated, as it is being stimulated at the prices that are being paid and charged to-day, and it is only a question of time till we can re-absorb into the industry as many men as are in it to-day, and produce a quantity of coal which we believe will exceed 300,000,000 tons. . . ."

"There had been a gradual steady increase in the production of coal in this country before the War and I see no reason to believe why that increase would not have continued if there had not been any war. There are enormous arrears to be made up in the world of even replacement and renewal of materials which have been worn which have not been undertaken because the cost of materials has remained too high." Royal Commission on the Coal Industry (1925), *Minutes of Evidence*, Thirty First Day, p. 40.

lies with coal rather than with oil.”¹⁴ In regard to hydro-electric power it would “be taking too pessimistic a view to regard this new source of power as necessarily supplanting coal.”¹⁵ The increased economic activity which hydro-electric power stimulates will in itself increase the demand for coal. The owners apparently are not concerned with the development abroad of such substitutes as lignite nor with the largely increased mining capacity in foreign countries and the growing tendency on the part of foreign governments to protect their newly developed mining industries against foreign competition.¹⁶ The immediate task, as the British coal owner sees it, is to enter the competitive field with a reduced price list in order that Great Britain may “regain its pre-war position of supremacy in the export market” and “to share in any world trade revival.”

These assumptions appear to be contrary to the realities of the present situation. That price is not the only essential factor in the sale of coal has been proved again and again. The householder, to be sure, would gladly get his fuel at a lower price, but relatively few increase their coal consumption when prices are low. In the industrial field, the demand for coal varies rather with the volume of industrial output than with the market price of fuel. Coal is a raw material, which in the form of heat and

¹⁴ *Ibid.*, Twelfth Day, p. 342.

¹⁵ *Ibid.*, Twelfth Day, p. 342

¹⁶ Chile and Spain have recently imposed protective tariffs to encourage their infant coal industries. The French government in an attempt to aid the mine owners in France has recently prohibited the importation of foreign coal except by license.

power enters into the production of other commodities. It is the demand for these commodities that determines in large part the amount of coal that is wanted. Thus, in spite of the high coal prices of 1913, industrial activity was such that Great Britain's coal sales were the largest in her history. Likewise in 1920 when prices were exorbitant the colliery owners sold every ton they could produce. There is no evidence that high coal prices have been a factor in checking the activities of the iron and steel trade, nor can it be conclusively shown that cheap coal has ever stimulated the world demand for ships, rails, and machinery.

Secondly, recent developments in the international coal market appear, contrary to the owners' view, to be permanent. In determining the British share of the world markets British prices must no doubt be a decisive factor. But in spite of price advantages these developments will still threaten Britain's markets. The growing use of lignite in Germany is not a temporary phenomenon. Even though, as is sometimes believed, the development of hydro-electric power in Scandinavia and Italy may stimulate the use of coal, there is no assurance that Great Britain will be the source of their supply. The navies of the world and a considerable proportion of its merchant tonnage have, so far as can be judged, permanently turned from coal to oil. And the efficiency of steam raising and fuel burning promises progressively to increase in the future.¹⁷

Nor is there any assurance that any lowering of costs, and consequently of prices, for export coal,

¹⁷ See Chapter IX.

through an attack on wages and hours, will not be met by similar action on the part of Great Britain's competitors. The hope that longer hours and lower wages will yield an advantage to Great Britain will be fulfilled only if other countries do not follow suit. And other countries, it is known, are already on the brink of such changes.¹⁸ The British owners have no monopoly of ameliorative measures. Reducing wages and lengthening hours is a game at which two or, indeed, any number can play.

The hope that the coal industry may be saved by the traditional expedients of longer hours and lower wages ¹⁹ fails then to come to grips with certain basic

¹⁸ As a matter of fact, the principle of competitive advantage was duly recognized when the question of improved technique was suggested as a method of reducing costs. In a curious reversal of logic the owners noted that "our competitors abroad will also look forward to improved technique, to reducing their costs of production, and on balance we get nothing from that source, from the competitive point of view." (Court of Inquiry Concerning the Coal Mining Industry Dispute, 1925, *Minutes of Evidence*, Third Day, p. 123.) If this is true of improved technique is it not also true of other methods of lowering the cost of production?

¹⁹ *The Sunday Observer* (London) of January 17, 1926, after referring to the plan of the Miners' Federation as a "far-away exercise in Utopias," discussed the mine owners' plan in the following terms:

"The mine owners have gone one better. They have succeeded in bringing before the Commission the most damaging evidence it has heard against the present régime in the coal mines. All they could suggest was that wages should be cut and hours lengthened, that 100,000 men should be dismissed, that railway rates should be lowered by 25 per cent, and that 'other costs' in the mining industry should be lowered by 10 per cent. The industry would then run at a loss of 3d. a ton. As the last two items mean wage cuts, the mine owners' proposals meant more work all round with or without less wages, with no guarantee against the Continent following suit and undercutting again to reproduce exactly the same position.

"Royalties were approved. Compulsory grouping was condemned. Profit-sharing was piously blessed and left on one side. Nothing in the industry itself requires change. This state of

forces which dominate the market situation. These expedients look backward to the time when the predominant factor in the coal industry was a steadily increasing demand for coal, and such demand cannot at the present time be predicated.

Longer hours and lower wages should not, however, be dismissed as useless. They do cut costs, and for the immediate present should give Great Britain a competitive advantage here and there in the export markets. But if our analysis of the future export situation proves correct, British coal is threatened with progressive curtailment within the next decade. Such economies in production costs as accrue from an attack upon labor standards will prove of little avail in offsetting the growing use of substitutes and the increased coal production in foreign countries.

It must not be overlooked, moreover, that an attack upon labor standards raises a host of issues which lie beyond the confines of the market. Briefly, the owners' expedients fail to take any account of the changing status of labor. They disregard entirely the growing demand of the workers to be more than mere hewers of wood and drawers of water. The twentieth century labor consciousness has as little place in the owners' program as the twentieth century technique. Their program is based upon the assumption that the rising tide of new demands can be quelled by strong measures or satisfied by the giving of more material com-

internal perfection will have cost us £21,000,000 at least between August 1 and the end of the financial year. When it is completed by wholesale wage cuts and dismissals, the triumphant conclusion will be a loss of 3d. a ton. This is the plan. It could not have been much more perfunctory and unconvincing if it had been the plan of men who had washed their hands of the business and were waiting to be bought out."

forts. It is at variance with the growing conviction of all groups of the community that labor unrest is "a healthy striving" which it is both unwise and short-sighted to disregard; that the new impulses should rather be welcomed and utilized, and that peace will be achieved only when the workers' conditions of life and work are more in accord with their desires.²⁰ In so far as the owner's point of view fails to reckon with this new striving it looks backward; in so far as it attempts in any degree to reduce the British worker from intelligent self-respect to docility it contravenes one of the most powerful and hopeful tendencies of British social life.

²⁰ "Our civilization cannot be stable unless it solves the industrial problems that beset it. It cannot continue as it is indefinitely into the future. It must change. The only question is whether the change shall come about by sudden and costly cataclysms, spasmodically, without thoughtful leadership, or whether it shall be gradually and smoothly, by well-considered methods. Peace in industry is essential, but peace is only possible on a basis of justice. It is not just, and it is useless to pretend it is, that, while some of those engaged in production, or living without producing at all, enjoy great incomes, others are in miserable poverty, that millions of the people have to pass their lives harassed by incessant anxiety through insufficient wages and recurring unemployment, subject to degrading conditions from bad housing and a wretched environment. They see through a window the feast of comfort and culture. They cannot enter to share it. And not only that. The workmen have as a rule no sufficient voice in deciding the conditions of their own employment. They are no more than hands. Thoughtful men and women, educated, self-respecting, cannot endure it.

"The discontent is justified. It is no mere policy of class selfishness we are witnessing. It is a healthy striving. The vast majority of every nation are manual workers. If they are degraded the nations cannot be noble. Only when they are redeemed can the civilization of our times rest content with itself. There I see the central issue of our politics. By their handling of that, our political parties must be judged." Samuel, Sir Herbert, Chairman of the Liberal Organization Committee, as quoted by the *Manchester Guardian Weekly*, March 4, 1927.

CHAPTER XI

THE TECHNICIAN'S WAY OUT

There has been no dearth of prescription for every ill from which the coal industry suffers—nor indeed for many an imaginary ill. Every reformer has tried to apply his pet panacea to coal. The public-minded business man with a hobby has ridden it into the mines. Every theorist has believed that the coal industry would prove his theory if only this or that reform were adopted. And they have all written letters to the *Times*! These fascinating suggestions we must, however, ignore for the sake of the more sober pronouncements of technical opinion. Even in this field there is wide diversity of prescription. But beneath this diversity is a large fund of agreement as to certain fundamental, technical reforms which would—in varying degree and in varying length of time—help to bring prosperity to coal. What these reforms are, and the steps which must be taken to bring them about, is our present query.

To the technician the obvious way of relieving the ills of the mining industry is through instituting economies in the production, distribution, and utilization of coal. Conceiving the function of the industry in its broadest social and economic terms, he considers the problem of coal as more than that

of the mine. Both the distribution and the utilization of the product are intrinsic aspects of the problem, and the ability of the industry to regain its vitality will depend largely upon the efficiency of the organization of these two branches of coal economy. These branches are not, it is true, usually considered as a part of the industry itself, but they nevertheless form an inevitable part of the "coal problem" of the country. If the limits of the coal industry continue to be fixed at the colliery sales office, and distribution and utilization be considered as extraneous issues, the possibility of rejuvenating the British coal industry is strictly limited. If the function of coal is to furnish power and heat in its cheapest and most convenient form, it is logical to demand that the coal problem be extended to include the field of coal distribution as well as power generation.

It is at these points, then, that the technician searches for the sources of hope for coal. If it were found that only efficient mines survive, that there are no obsolete and ancient practices in the pits, that distribution costs are at a minimum and that coal utilization is developed to a maximum, then the outlook for the industry is indeed dark. But fortunately for the future the technician does not find this to be the case. For a decade he has been pointing to the plague spots of inefficiency that prevail in the industry. He has been attacking production, marketing, and utilization with thoroughness and vigor. Thanks to the fact that the industry has latterly spent most of its days in the hands of commissions or courts of inquiry, he has been continually

called upon to give his opinion and to furnish data which has been made publicly available.

1. THE POINTS OF ATTACK

It is not within the scope of this study to penetrate far into the engineering frontier. Since waste is relative to "The State of the Industrial Arts," at a given time, and since these are subject to continual improvement, the accepted practice of yesterday becomes the wasteful method of today. Rapidly developing technique creates ever-changing standards, and no mining procedure long remains outside the realm of debate. Judgment as to the relative merit of available practices will always vary. But at any given time there is a general consensus of technical opinion which defines the direction in which practice is developing.

1. THE WASTES OF MINING PRACTICE

One outstanding indictment of the British coal industry as now organized is the large number of small and inefficient undertakings in every coal field. Having neither the capital nor the internal organization necessary to meet the requirements of present-day efficiency, the small pit becomes a drag upon the industry and appreciably increases production costs. Judged by every test of efficiency, pits of this sort are found to lag behind their larger competitors. Measured in terms of output per man-shift, of costs, and of earnings, they are on a level far below that of the large undertakings. The smallest of them—those with an output

of less than 5,000 tons per year—averaged 12.78 cwts. of coal per man-shift during the first half of 1925, an output about 7 cwts. less per worker employed than that attained in the larger undertakings which produced 2,000,000 or more tons. Undertakings with an output running from 5,000 to 200,000 tons produced but 16.22 cwts. per man-shift as compared with 19.76 cwts. in the largest undertakings.¹ In fact there appears to be a direct relationship between the size of an undertaking and its output per man-shift, the latter rising “with almost complete regularity” with the increase in the size of operation. This condition has, as would be expected, a direct effect upon the unit cost of production, and cost data illustrate in a most telling manner the unfavorable position of the small organization. Costs in the smallest undertakings—those which produce less than 5,000 tons a year—run to almost unbelievable heights and average as much as 32 shillings (about \$8.00) per ton. In operations with an output of 5,000 to 200,000 tons costs average 20.23 shillings and they fall with absolute regularity to 17.11 shillings which is the average for undertakings that produce 2,000,000 or more tons.

Although this difference in cost is in part offset by the higher prices which the smaller undertakings frequently receive for their products,² “the larger

¹ Royal Commission on the Coal Industry (1925), *Report*, Vol. I, p. 54.

² Special qualities of coal and nearness to good markets as well as direct selling to consumers frequently enable the smaller mines to get higher prices for their product than those generally received at the majority of the pits.

undertakings remain substantially more profitable on balance.”³ For the first six months of 1925 the losses in the smallest undertakings averaged 8.5s. per ton and those in the next two groups (5,000 to 200,000 and 200,000 to 400,000) 1s. 3d. and 9d. respectively. The largest groups (producing 1,000,000 tons or over), on the other hand, showed a small profit. Even though small, this profit placed 36.8 per cent of the nation’s output on the credit side of the balance sheet and it was sufficiently large to offset the losses entailed by all of the collieries producing more than 400,000 tons of coal during the period in question.

WORKING RESULTS OF COLLIERY UNDERTAKINGS OF VARIOUS SIZES *
January to June, 1925

Yearly output of undertaking (1,000 tons)	Number of under- takings	Percent- age of total tonnage raised	Output per man-shift	Proceeds	Costs	Profit (+) or loss (—)
				<i>Shillings per ton</i>	<i>Shillings per ton</i>	<i>Shillings per ton</i>
Less than 5	10		12.78	23.51	32.01	—8.50
5 and under 200..	307	12.7	16.22	19.02	20.23	—1.21
200 and under 400..	126	16.9	17.05	18.43	19.21	—0.78
400 and under 600..	72	16.3	18.34	17.90	18.04	—0.14
600 and under 800..	28	8.9	18.56	17.53	17.82	—0.24
800 and under 1,000..	20	8.4	18.68	17.52	17.65	—0.13
1,000 and under 2,000..	42	26.2	19.66	17.77	17.49	+0.28
2,000 and over.....	8	10.6	19.76	17.39	17.11	+0.28
All	613	100.0	18.32	17.93	18.23	—0.25

* Royal Commission on the Coal Industry (1925), *Report*, Vol. I, p. 54.

Having neither the funds nor the personnel necessary to come within striking distance of modern efficient practice, the small undertaking continues to produce, irrespective of the needs of the market. When finally it finds itself in difficulties it frequently seeks relief by an attack upon the wage rate. Opera-

³ Royal Commission on the Coal Industry (1925), *Report*, Vol. I, p. 54.

tions of this sort were the first to feel the effects of the wage agreement of 1924. To them practically all of the heavy losses of 1925 were confined. Had they been eliminated in previous years there would have been no occasion for the \$120,000,000 government subsidy which was granted in 1925-26.

Inefficient practices are not confined to the smaller operations. Obsolete methods of colliery working are to be found scattered here and there in undertakings of every size. The backward state of mining technique in existing collieries has already been depicted.⁴ To be sure, in the progressive undertakings organized planning and machine technique have been substituted for outworn practices. There are pits with only average seams whose output per man at the face runs from three to three and one-half tons per shift as compared with the average of 44.87 cwts. for the entire industry. Nor is it a rare exception to find a colliery which by the use of mechanical appliances, such as cutting machines and conveyors, has attained an average output of three to five tons per face worker.⁵ Indeed, many cases can be found where an increase of 65 per cent in the output of the face workers has been attained by the mere installation of conveyors.⁶ The general run of

⁴ See pp. 149-57.

⁵ Among the 1,781 mines in Great Britain which produced 98 per cent of the total output of the country, there were in the year ending June, 1925, 112 which produced on the average 65 cwts. or more per man-shift at the face. These 112 mines had an aggregate output equal to approximately one-eighth of the total production for that year.

⁶ One of the authors had the good fortune recently to visit a colliery in Scotland where coal under 30 inches in height was being mined. In one of the sections visited a seam 1,170 feet below the surface was being worked by a total of 44 men who were turning

mines, however, have a considerable distance to go before approaching the standards of these efficient operations.

If all the mines of Great Britain were "brought as nearly as possible to the level of the best" the savings in production costs that might be realized would go an appreciable distance toward creating a margin for meeting the requirements of the industry's workers and owners. Just how large these savings would be is a matter of speculation. One thing, however, is quite certain. If the cost in all operations had been made to approximate those which prevailed in the 28 per cent of the undertakings which produce in excess of 1,000,000 tons a year, the industry could have realized a saving of 2.27 shillings per ton on one-third of its total output.⁷ Indeed, in one important district the net saving would have run as high as 3.9 shillings per ton.⁸

out 300 tons of coal per day. The coal was machine-cut by six men. It was then loaded onto two conveyors by 22 men. The conveyors emptied the coal onto two gate loaders from which it was emptied into the tubs. The conveyors and loaders were looked after by 4 men, and 6 other workers were required for shifting the conveyors as the face advanced. Six additional miners were required to do the brushing. The output of the workers in this mechanized section averaged over seven tons per man per day.

Although the output of this section is abnormally large there are many other pits in Great Britain whose output at the face far surpasses the average of even the larger mines of the country. The average output of saleable coal per man-shift at the face for the entire industry is 44.87 cwts; that of the larger mines—those employing 1,000 workers and over—is 48.85 cwts.

⁷ Royal Commission on the Coal Industry (1925), *Report*, Vol. I, p. 262.

⁸ The savings in South Wales and Monmouthshire would have averaged approximately 3.2 shillings and those in South Yorkshire 3.9 shillings. *Ibid.*

2. DISORDERLY DISTRIBUTION

The technician's indictment of the industry has extended beyond the mine itself. Great emphasis has been laid upon the large amounts now dissipated in the unnecessarily expensive system of coal distribution. In the past the distribution of coal has been held to be beyond the province of the colliery magnate. His function as he sees it is that of mining the coal and turning it over to the middleman. If the consumer so wishes he can, of course, purchase his fuel directly from the colliery, and, to be sure, a considerable amount of coal is thus sold without an intermediary. But distribution is considered essentially distinct from the mining of coal. Once the coal has left the tipple the mine owners disclaim all responsibility. Unsupervised and uncontrolled, the distribution of coal has grown increasingly expensive. Its methods have shown little change in the past half century, and the margin between pit cost and cost to the consumer has been gradually increasing.

The transportation of coal from the mine to the consumer retains all of the antiquated characteristics of the late nineteenth century. Coal is still conveyed in privately-owned cars, and the equipment shows little improvement over that employed in the early days of Britain's railroad history. The original practice of the British railroads of furnishing nothing but track and locomotives and compelling the shipper to furnish the cars in which his product is transported, though discarded in other fields, is still retained in the shipping of coal. Some 500,000 coal "wagons" on the British railways—

almost three-fourths of those used—are still privately owned by some 10,000 separate owners who are either mine owners, factors, merchants, exporters, or wagon-owning companies. So, also, since the track, the bridges, the curves, and the tipples were originally constructed for little “bob-tailed” wagons of 8, 10, and 12 ton capacity, cars of this type still comprise the bulk of the rolling stock.⁹

Once the coal “wagons” have been unloaded at the consumer’s depot they must be sorted and shunted and each car returned to some particular place, usually the colliery from which it started. This practice means expensive siding accommodations, costly shunting, and a return haul of empty cars which might otherwise be used at some point nearer their destination.¹⁰ Consequently, the British coal wagon makes but two and three-fourths journeys per month as opposed to five or six in Germany, France, and Belgium where haulage distances are on the average greater than in Great Britain.¹¹ The cost of unnecessary shunting resulting from diversified ownership means at least two cents a ton on the total amount of rail-borne coal and coke. And the use of 10-ton cars as opposed to cars of 20-ton

⁹ The capacity of the standard coal cars in the United States runs at over 40 tons, though some roads provide cars of 100 and 110 ton capacity. The German, French, and Belgian coal cars average about 20 tons.

¹⁰ At the important railroad terminals it is no rare occurrence to see a large number of “spotters” employed by the various owners of coal cars whose function it is to pick out the cars owned by their respective companies and see to it that they are returned to the mines at which they originated. This practice is expensive and the cost of it must be borne by some one.

¹¹ Royal Commission on the Coal Industry (1925), *Report*, Vol. I, p. 101.

capacity means a further addition of some 20 per cent to the cost of moving the coal traffic.¹²

In addition to the wastes of coal transport, are the much greater wastes inherent in the general organization of the distributive process. The marketing side of the coal industry "is probably less organized than any other important industry of the country against the effects of excessive internal competition in selling and of organized buying by its customers."¹³ Though considerable amounts of the coal consumed in Great Britain are sold by the mines directly to the consumer, approximately one-half of the output may go through two or three hands before it reaches its final destination. It may go to any one of 2,000 wholesalers or factors and a certain proportion of it is then resold to the 27,000 existing retailers. Occasionally, too, the retailers resell to each other and to trolley men or hawkers who vend the coal from their wagons on the city streets. The majority of these middlemen are small dealers who handle relatively insignificant amounts of coal, and though there has been an actual decrease in the total internal consumption of coal, these middlemen are growing in numbers.¹⁴ Records for one railroad district show that the average amount of coal handled by each of the 647 dealers on its lines runs around

¹² Stephenson, W. T., Royal Commission on the Coal Industry (1925), *Minutes of Evidence*, Twenty Second Day, p. 2; Wedgewood, Sir Ralph, *ibid.*, Twenty Seventh Day, p. 17.

¹³ Departmental Committee on Coöperative Selling in the Coal Mining Industry, *Majority Report*. See *Colliery Guardian*, Vol. 132, No. 3441, December 10, 1926, p. 1285.

¹⁴ Wedgewood, Sir Ralph, Royal Commission on the Coal Industry (1925), *Minutes of Evidence*, Twenty Seventh Day, p. 9; Stephenson, W. T., *ibid.*, Twenty Second Day, p. 4.

150 tons per month, a condition which prevails quite generally in other parts of the country also.

The growth in the number of small dealers has brought with it all of the wastes that usually accompany excessive duplication in the field of distribution. It has been a source of additional and avoidable expense to the working of the coal traffic; it has brought pressure upon the terminal facilities; and it has necessitated superfluous sidings and excessive car shunting. Moreover, irrespective of the amount of coal handled, the numerous distributors must each maintain his individual equipment and labor force and each must add to the price of coal an amount sufficient to cover his expenses and profits—charges which in the City of London mean \$2.50 or more on every ton of coal sold.¹⁵ Of this amount some 40 cents could be saved on “establishment and clerical salaries” alone if the retail trade in London were conducted as economically as that of the coöperative societies.¹⁶ Other savings are possible in the wholesale branch of the coal trade where distribution costs are appreciably higher than those of the selling agencies directly connected with collieries.¹⁷

The duplication and waste characteristic of the internal distribution of coal has been shown also to prevail in the export branch of the coal trade. Here, too, the number of firms has been steadily increasing. In spite of the decline in export sales since 1913, the number of exporters in the single port of Hull has during the past twelve years grown from

¹⁵ Royal Commission on the Coal Industry (1925), *Report*, Vol. I, p. 87.

¹⁶ *Ibid.*

¹⁷ *Ibid.*, p. 88.

77 to 129. This increasing number has intensified the competition between exporters, a competition which has been responsible in large part for the low prices received for British coal in foreign markets. Conditions in foreign markets are such that competition "is not so much between British and foreign exporters as among the British exporters themselves" ¹⁸ and to the multiplicity of exporters can be attributed a large part of the responsibility for the low prices received by the export collieries for their product.

Briefly, the transportation, wholesaling, retailing, and exporting of British coal abound with unnecessary wastes. There are "substantial margins of profits and expense" between producer and consumer "which might be narrowed to the advantage of one or either or both of them." ¹⁹ The machinery for making available these margins is, as shall be seen, neither recondite nor remote. For a generation such machinery has been successfully used in Germany and the consensus of opinion is to the effect that it will prove equally successful if adopted in Great Britain.

3. WASTEFUL COAL UTILIZATION

It is in the field of coal utilization that the greatest indictment against the present coal economy has been made by the technician. Here, as in the field of distribution, the coal industry as at present constituted disclaims all responsibility, and has repeatedly announced that the problem of utilization is

¹⁸ *Ibid.*, p. 94. See also, Departmental Committee on Coöperative Selling in the Coal Mining Industry, *Majority Report*.

¹⁹ *Ibid.*, p. 43.

none of its concern. Yet it is commonly held that the more scientific use of coal is the most vital technological transformation required. In the opinion of the fuel technician it is the utilization of coal which holds the greatest promise for future success.

Utilization of coal, as it is today carried on, is perhaps one of the most wasteful practices of modern economic life. "We are at present utilizing our coal in the most expensive way possible."²⁰ Large amounts of coal are dissipated by the antiquated methods of household heating where the individual fireplace is almost universally predominant and central heating a luxury for the few. Millions of tons of unnecessary coal are consumed also in the needless duplication of power plants where power is frequently generated in small and highly inefficient steam engines, consuming in some cases as much as ten pounds of coal per horse-power hour, an amount four to five times that required by central stations.²¹ These small steam-raising plants, scattered here and there wherever power is used, consume some 80,000,000 tons of coal each year in the production of industrial energy, an amount which it has been estimated is three times more than would be necessary to meet the present power requirements of Great Britain under a coördinated system of electric power generation and distribution. This in itself means an annual waste of over 50,000,000 tons of coal.²² And with

²⁰ Hay, Douglas, "The Mining Industry from Within," *Coal: Ways to Reconstruction*, London, 1926, p. 19.

²¹ Snell, Sir John, Royal Commission on the Coal Industry (1925), *Minutes of Evidence*, Ninth Day, p. 253.

²² Electric Power Subcommittee of Coal Conservation Committee, *Report*, 1918, p. 9.

this waste goes the loss of many a ton of the poorer grades of coal which could be efficiently used under large and modernized steam boilers and which finds but a limited market in the small power plants which can operate only with the better quality fuel.²³

This unnecessary waste of coal does not, however, mean only a loss of so many thermal units. In four-fifths of the coal consumed millions of dollars worth of valuable by-products are lost forever. The products that go to waste by way of the domestic and industrial chimney, if made available to the nation, would add to the national income an amount sufficient to make possible the amenities which have been demanded by those concerned with the mining of coal.²⁴ These by-products are legion in number and their utilization contains potentialities for a complete revolution in the industrial life of Great Britain.

Of the 184,000,000 tons of coal consumed in Great Britain in 1924, but 37,000,000 tons or about one-fifth of the total was made to yield any of the valuable by-products which could have been had from

²³ Merz, C. H., Royal Commission on the Coal Industry (1925), *Minutes of Evidence*, Seventeenth Day, p. 25.

It should be noted that the burning of pulverized fuel which makes possible the utilization of the poorer grades of coal has made relatively little headway in England. This practice is attaining wide vogue in the United States.

²⁴ "Since less than 6 per cent of the coal raised in this country is consumed so as to leave its coal-tar available for use here, it is well within the mark to estimate the annual loss due to the destruction of this material and of other products by the present wasteful methods of consumption as exceeding £100,000,000, a figure taking no account of the valuable derivatives which might be obtained from the by-products thus wasted." *Report of H. M. Inspector on Instruction in England in the Manufacture and Applications of Coal-tar Products*, London, 1924, pp. 2, 3.

scientific utilization.²⁵ That is to say, for every ton of coal which was treated in "ways which involved building up the mineral into other fuels—which can be used for certain purposes with greater efficiency or convenience than can raw coal—together with the recovery of some by-products other than fuel,"²⁶ four tons were burnt in a raw state under boilers, in furnaces, or in domestic grates and ranges. There were wasted in smoke countless millions of feet of gas, innumerable tons of tar containing millions of gallons of fuel oil and motor spirits (benzol) as well as huge quantities of ammonia and sulphur. A large portion of these products could have been made available, and there would still have remained the coke which in many cases could have been used more advantageously than raw fuel—particularly in blast furnaces and other metallurgical processes.

To the loss of by-products must be added also other wastes which accompany the burning of raw coal. The very products of combustion that go up the chimneys in waste pollute the atmosphere with results detrimental to both life and property. The loss caused by pulmonary and cardiac diseases "which increase in direct proportion to an increase in the intensity of smoke fogs" is beyond measurement.²⁷ Likewise, the cost to the community resulting in the loss of some 80 per cent of sunlight²⁸ in smoky towns can only be surmised. In

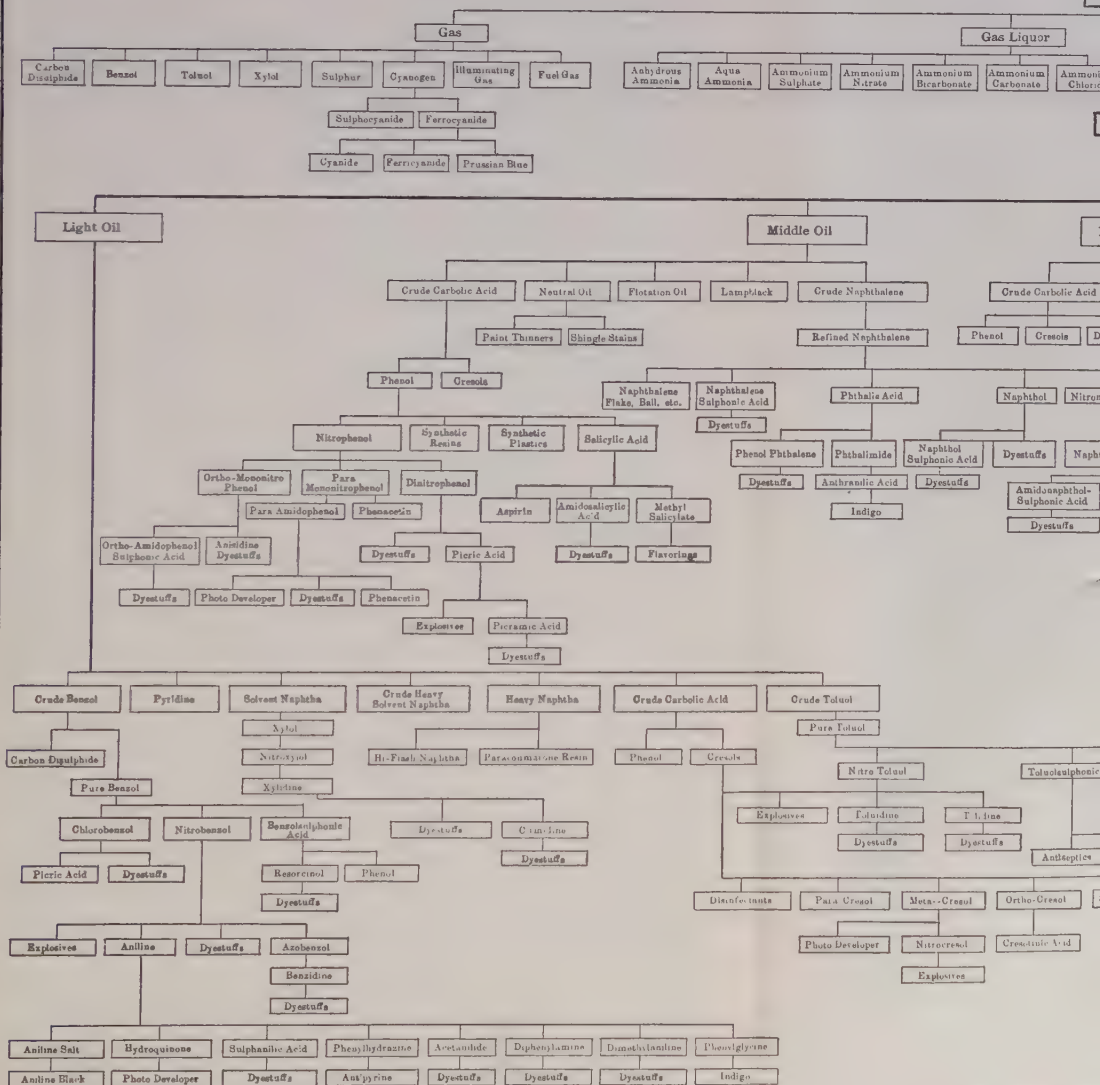
²⁵ Royal Commission on the Coal Industry (1925), *Report*, Vol. I, p. 22.

²⁶ *Ibid.*

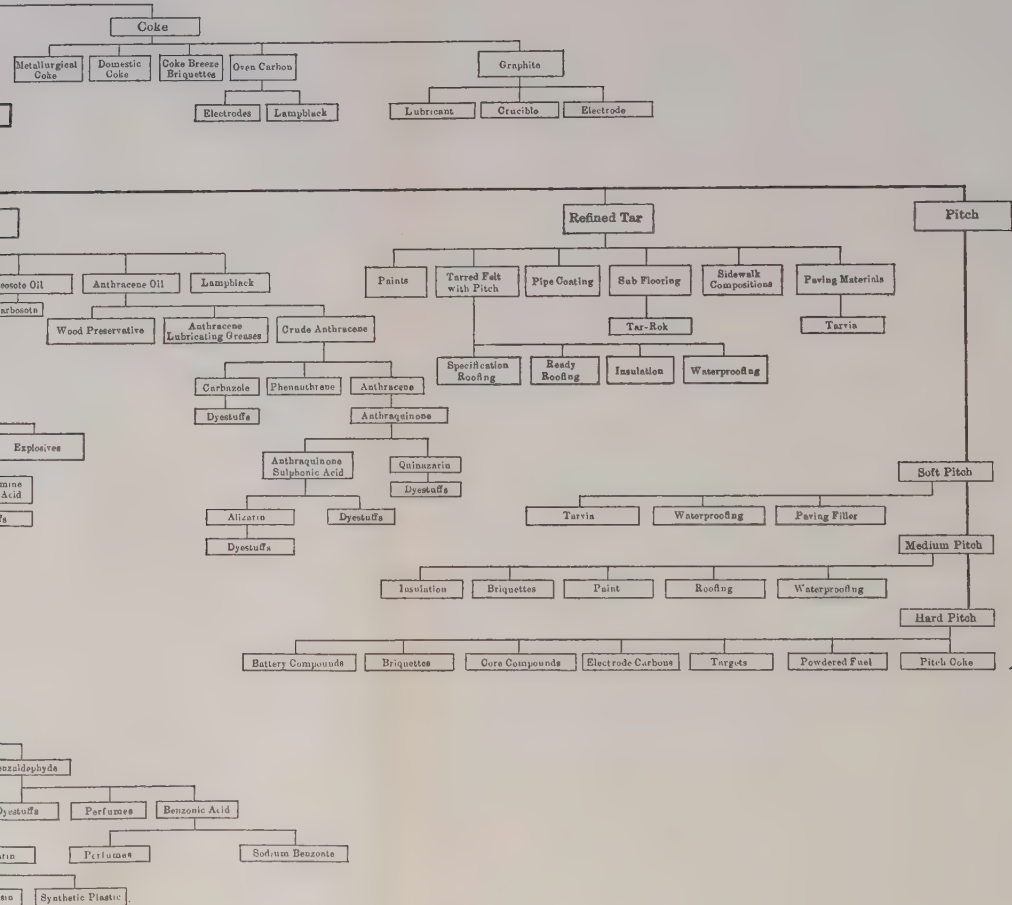
²⁷ *Ibid.*, p. 23.

²⁸ "A Miserable Triumph," *The New Statesman*, Vol. 28, No. 715, Jan. 8, 1927, p. 386.

4



FROM COAL



This chart was prepared by
THE BARRETT COMPANY, 40 Rector Street, New York

terms of coal it is estimated that some 3,000,000 tons of potential fuel are lost in the form of soot each year, a waste which represents three days' labor of a million miners or some \$15,000,000 worth of coal.²⁹ These unconsumed particles of coal also cause considerable damage to adjoining property. One cannot measure in pecuniary terms, to be sure, the extent of such loss to the community, but that it is a significant factor in the nation's budget is suggested to anyone who has visited the industrial centers of Great Britain. Judging by the estimates for the city of Manchester where the increased cost of household washing resulting from excessive smoke aggregates about \$1,450,000 a year, the loss involved for the country as a whole must run into many millions.³⁰

Many of these wastes cannot be immediately eliminated and the realization of the possible savings will involve considerable investment in new plant and equipment. But the fact remains that in the scientific utilization of coal can be found economies which give large promise of continued prosperity. Every extra b. t. u. derived from a ton of coal enhances the value of that ton, every by-product captured from an industrial smoke-stack or a household chimney can be made into something available as surplus to the industry and the nation. If the British coal industry is to meet its obligations, it cannot sit idly by and wait for chance to add to its product the margin which is now being lost beyond recall. Its welfare depends upon the value of coal in the market, and economic utilization points in the

²⁹ Royal Commission on the Coal Industry (1925), *Report*, Vol. I, pp. 23, 24.

³⁰ *Ibid.*, p. 23.

direction of increasing that value. "The old alliance of coal and steam no longer serves. King Coal must be set on a new throne, aggressive and conquering in a new alliance"³¹ with coke, gas, chemicals, and electricity.

II. THE METHODS OF ATTACK

To the technician, then, the sources of hope for the future of coal lie at the points of greatest inefficiency as the industry is now organized. The attack must, therefore, center around the elimination of the specific shortcomings summarized in the preceding section. His interest is in the devices and expedients which will realize economies and take advantage of the opportunities available in the field of production, distribution, and utilization.

1. AMALGAMATION

It is generally agreed by the engineering fraternity that one of the most urgent requirements of the moment is the amalgamation of the multifarious existing units into a much smaller number of undertakings. This need has long been recognized and has frequently been the subject of discussion in the trade. Indeed, for 73 years prior to 1844 the larger portion of the British output was in the control of a cartel known as the "Limitation of the Vend." In the eighties there was much serious consideration given to the establishment of a colossal trust to control the entire output of the country. In 1893 an active movement headed by Sir George Elliott had as its aim the amalgamation of all existing mining

³¹ "Our National Turning Point," *The Observer*, London, Feb. 28, 1926.

operations. This undertaking got as far as the prospectus stage, and finally foundered on the problem of the valuation to be put upon the individual properties. A scheme proposed in 1896 to control the steam coal trade of South Wales also failed to materialize, the obstacle this time being the inability of its proponent ³² to get a sufficient number of owners to join his venture. Both of these undertakings had as their primary purpose the elimination of the price fluctuations which accompanied changing industrial conditions, although the former had the further end of attaining economies in production.

The ever-growing demand for British coal and the profitableness of the coal trade made it difficult to maintain the colliery owners' interest in these ventures. Although attempts were made in 1903 and in 1911 to amalgamate the anthracite branch of the industry, little was heard until 1919, except in the ranks of labor, about the need for amalgamation. In the latter year a proposal of Sir Arthur Duckham, a member of the Sankey Commission, for the trustification of the coal industry, held an important place in the deliberations of those concerned with the coal trade.

The savings to be derived from a series of compulsory amalgamations have been the subject of endless discussion in mining and engineering circles. It is doubtful whether any other remarks concerning coal winning have been as frequently quoted as has the long list of possible economies drawn up by a well-known mining engineer and colliery director

³² Mr. D. A. Thomas, later Viscount Rhondda, was the prime mover behind this scheme.

who was formerly His Majesty's Chief Inspector of Mines.³³ Most important among these economies are the savings to be derived in drainage and pumping costs, in the transport of coal underground, in the generation of power for the mines, and in the handling of various classes of coal produced in a given area. Much could be done in the way of eliminating the waste of coal in unnecessary and artificial barriers. Many a superfluous working could be eliminated and the unified operation of

³³ The advantages of collective production as enumerated by Sir Richard Redmayne are as follows:

(1) Better control of freights. (2) Economy of administration—managerial and administrative expenses would be less. (3) Provision of capital allowing a quicker and more extensive development of backward mines. (4) More advantageous purchase of material. (5) Reduction of colliery consumption. (6) More harmonious relations between workmen and employers due to steadier work and more adequate remuneration of workmen. (7) Obliteration to a great extent of vested interests and middlemen. (8) The unification of the best knowledge and skill leading to greater interchange of ideas and comparison of methods. If good results are obtained at one mine and bad at another the reasons leading up to these results would be common to the whole corporation and would make for efficiency.

Mr. John Gibson, a colliery manager, presented in the memorandum of the Scotch Mine Managers' Association, submitted to the Sankey Commission of 1919, the following national advantages to be gained from amalgamations:

(1) Central pumping stations for draining great areas. (2) Standardization of a great many of the simpler appliances, such as trams, rail gauges, tipplers, turn plates, etc. (3) Central power stations worked in connection with central washing plants, and so making use of the slurry or duff. (4) Central power stations worked in connection with coke oven and by-products plants. (5) Some little advantage might be gained on boundary coal between different royalties, but in the troubled fields of Scotland large faults or whin intrusions usually form natural boundaries.

Another list was submitted by the Miners' Federation, and by Professor George Knox, Principal of the South Wales and Monmouthshire School of Mines. See Coal Industry Commission, *Minutes of Evidence*, Vol. I, pp. 210-211, 1919; Vol. II, p. 934; and p. 1110. Also Royal Commission on the Coal Industry (1925), *Minutes of Evidence*, Thirty Third Day, pp. 5-9.

each mining district could be brought about.³⁴ All mines in a given area could be worked as a common undertaking. Surplus capital from the better situated mines could be used to improve those whose equipment is inadequate; supplies could be bought in larger quantities at considerable saving;³⁵ administrative expenses could be considerably curtailed; the maintenance of a skilled technical staff would no longer be restricted to a relatively few prosperous undertakings.

Thus there would be made available the many advantages of large scale production. Nor are these advantages merely the theoretical creation of the mind of the technician. They are today being enjoyed by a few undertakings in Great Britain, undertakings to the prosperity of which they have contributed immeasurably. The number of combinations is, however, small, and judging by the experience of the past, if one leaves the matter of amalgamation entirely to the action of the parties directly concerned, the number will remain exceedingly limited. Though the industry has in recent

³⁴ The amalgamation of collieries under a system of nationally owned royalties was also proposed by Mr. David Lloyd George in a report on "Coal and Power," published in 1924. A similar recommendation was made by the Royal Commission on the Coal Industry (1925) in its report. In both of these instances, however, amalgamation was to be of a voluntary character and to originate among the owners subject to approval of certain statutory bodies. The Commission of 1925 did, however, recommend legislation to provide for "a compulsory transfer of interests under existing leases where desirable amalgamations are prevented" by the dissent or unreasonable demands of owners. This recommendation was in part incorporated in the Mine Act of 1926 which received royal assent in August of that year.

³⁵ Royal Commission on the Coal Industry (1925), *Report*, Vol. I, p. 57.

years passed through several periods of severe economic pressure, the adoption of large scale production through amalgamation "which is plainly one means among others of meeting that pressure, has not taken place on any adequate scale."⁸⁶ If the needs of the immediate future are to be met, amalgamation must proceed at a much faster rate than in the past.

2. NATIONALIZATION OF ROYALTIES

If the British pits are to operate with a minimum of inefficiency it is evident that their underground organization and layout must be determined by the dictates of mining standards and not by the accidental surface boundaries which arise from the diversified ownership of coal lands. The wastes and inefficiencies arising from the present system of royalty ownership have for many years been the subject of discussion in mining circles. The savings to be derived from the unified ownership of coal resources have been repeatedly pointed out by various government investigating committees.⁸⁷ And two commis-

⁸⁶ *Ibid.*, p. 59.

⁸⁷ The most significant of these investigations was that of the Committee on the Acquisition and Valuation of Lands, which issued its report in 1919. The disadvantages of the present system of royalty ownership were listed by this Committee in the following manner:

(1) Owners unwilling to sell or lease. (2) Owners demanding exorbitant terms. (3) Minerals under copyhold or enfranchised land. (4) Minerals in small separate ownerships. (5) Legal disability of owners. (6) Cases of unknown owners. (7) Difficulties in working arising from surface support. (8) Coal unnecessarily left unworked as barriers. (9) Refusal of owners to grant way-leaves on reasonable terms. (10) Difficulty in obtaining surface powers for working or carrying minerals. (11) Restrictive con-

sions have gone so far as unanimously to recommend the nationalization of royalties.³⁸ Legislation enacted in recent years has corrected some of the wastes that have arisen from the ownership of coal seams vested in 4,000 different persons, but the difficulties still remaining were sufficient in 1926 to lead the Royal Commission on the Coal Industry emphatically to reiterate the need for state ownership.³⁹

Government-owned coal resources would eliminate the necessity for each mine owner to obtain an average of no fewer than five leases from five different land owners, and in some cases to negotiate as many as 50 leases, before securing a workable plant.⁴⁰ It would also permit the economical layout of mines, and thereby bring considerable saving in the expenses of development. It would make possible in certain areas the elimination of multiple pumping and drainage systems now necessitated by the diversified own-

ditions impeding development of minerals. (12) Onerous conditions of leases. (13) Absence of power to regulate the layout of a mineral field. (14) Loss of minerals in working.

Acquisition and Valuation of Land Committee, *Third Report*, 1919, (Cmd. 156).

³⁸ These were the Mining Industry Commission, 1919, and the Royal Commission on the Coal Industry (1925).

³⁹ "We are aware that some of the commissioners of 1919 have since changed their view, partly on account of the enactment of the Mines (Working Facilities and Support) Act, 1923; but we do not regard this measure as dealing with more than minor aspects of the question. We cannot contemplate the continuance of the system of private ownership indefinitely into the future." Royal Commission on the Coal Industry (1925), *Report*, Vol. I, p. 77.

⁴⁰ "The areas in coal worked from any particular pit have not necessarily been those areas which could most economically be worked from that pit, but those for which the mine owner has succeeded in obtaining leases." The result has been "an undue expense in development and a waste of time for the miners in traveling underground to and from their work." *Ibid.*, p. 77.

ership of coal lands. Coal which today is lost in the form of boundary barriers, and coal which is left unmined because here and there an owner of adjacent lands imposes unreasonable terms or refuses to allow his coal to be worked, could be made available to the nation.

Most important of all, state ownership of coal royalties would give to those who administer the coal lands "proper control over the disposition of the new pits that are continually being sunk."⁴¹ The administrators would have power to designate the conditions under which coal was to be mined, and in granting leases for new pits, as well as in renewing leases for old ones, requirements could be set relative to the layout of collieries and the housing of workers—a form of control "far more effective than any control established through legislative or administrative action."⁴²

⁴¹ *Ibid.*, p. 78.

⁴² *Ibid.*, p. 82. Sir Josiah Stamp, President of a large British railway and a member of the Macmillan Board of Inquiry which reported on the Coal Industry in the summer of 1925 (see p. 61) in an article published in *The Nation's Business* in the summer of 1926 said:

"The royalties need not bother us for long. The royalties amount to 5d. a ton. What we are considering is a margin of 3s. or 4s. per ton. Even if royalties were abolished that could not solve the trouble. . . . There is nothing which can raise into more intense enthusiasm or intense heat, if you like, the whole mass of miners than the mention of this question; and the mere outlay of 100 million or 120 million to remove this cancer, as it were, from men's minds would be well worth while, because it amounts to far more in the industrial psychology than it is really worth.

"But there is far more in it than provoking thought and disabling or wounding institutions in public life, because Government ownership of the royalties would enable the losses in future to be handled in such a way as to insure the highest economic development. The best methods and principles should be applied to all. The Government would not only have in a short time

The savings to be attained from the state ownership of mining royalties are far-reaching, but they cannot all be made immediately available. About 60 per cent of the coal mined at present comes from properties whose leases will not expire for over 20 years.⁴³ Without declaring present leases void, the advantages derived will not be realizable for another generation. And the voiding of leases is an expedient too radical to be undertaken at the moment. This fact should not, however, stand in the way of taking over the royalties without undue delay. If the pits and mining villages of the future are to be freed from the objectionable features which now characterize so many pits and villages, a start must be made by prescribing the conditions under which new pits may be sunk today. The nationalization of the coal resources will furnish the means for making such prescriptions effective. It is an instrument which promises to bring a measure of organized control to an industry long notorious for its lack of unified direction.

3. COÖRDINATED DISTRIBUTION

A third recognized need of the coal industry is the coördination of the distributive machinery so as to protect the coal owner and miner from the vicissitudes of the abnormal competition which usually accompanies a decline in coal sales. This need has long been recognized by forward-looking leaders in

possession of all the coal and the unproved coal, but they would be placing that industry in a unique position. There are various other things which will, we hope, come from the possession of the royalties which will certainly make for success in that industry."

⁴³ Royal Commission on the Coal Industry (1925), *Report*, Vol. III, Appendix 18, Table 18.

the industry who have frequently pointed to the difficulties facing an uncoördinated industry during periods of slackened demand. In the past, the absence of a consolidated marketing organization in the coal trade has led to fierce competition and to a heavy fall in prices every time demand has temporarily slackened. As the market contracts, the individual producer finds himself faced with the alternatives of reducing his output—thereby increasing his cost of production when he particularly wants to reduce it—or of keeping his cost of production as low as possible by spreading his standing charges over a maximum output. His personal advantage usually appears to lie in following the latter course, for he realizes that the reduction of output by his single undertaking “will effect no appreciable reduction in the aggregate output and cannot therefore check the fall in prices.”⁴⁴ Other producers reasoning in the same manner come to the same conclusion. The market becomes temporarily oversupplied and “prices are forced down to a point where the belated curtailment of production can no longer be avoided.”⁴⁵ The coal industry must create an organization which will be able to reduce output to the limits of demand before, instead of after, a slump in prices.

Through coördinated selling organizations, functioning as an integral part of the mining industry, this tendency toward overproduction and excessive competition could be brought under control. Like the German cartels, selling agencies in Britain would

⁴⁴ *Report of the Departmental Committee on Coöperative Selling in the Coal Mining Industry* (Cmd. 2770), 1926, pp. 11-12.

⁴⁵ *Ibid.*, p. 12.

afford concerted action for temporarily but promptly adjusting production to a reduced demand. Moreover, the savings in selling expense available from the elimination of countless distributors should afford certain margins which could be treated as colliery proceeds, and thus provide a larger amount to be considered in the determination of colliery wages.⁴⁶

There would be the further advantage of automatically bringing into existence the pooling of railroad rolling stock. Much of the waste now caused by excessive shunting would thereby be eliminated. And in the export districts the selling organizations would be agencies for securing remunerative prices for coal sold in foreign markets where the competition between British sellers has so frequently of late forced coal prices to disastrous levels.⁴⁷

To assure substantial results in the export trade, the various export corporations will have to form some sort of agreement among themselves as to the prices they will charge in foreign markets. And

⁴⁶ Royal Commission on the Coal Industry (1925), *Report*, Vol. I, p. 94.

⁴⁷ "In the main, discussion has turned on the repeal of the Seven Hours Act, longer hours of working, or a substantial reduction in the present existing wages. Both these solutions have found advocates and support. Both will, undoubtedly, succeed in reducing costs, and to that extent will facilitate the sale of coal for export and possibly some greater use in the home industry; but when all this is done the basic economic position of the coal industry will be left in an unsatisfactory condition. The same haphazard variation of production and consumption and the relation of one to the other, which is the root of the present trouble, would remain unchecked. The international struggle for the export markets would continue and it does not seem capable of proof that the reduced cost of production would, in itself, reestablish the quantities necessary to obtain an output from which the greatest economic results could be obtained." Mond, Sir Alfred, *The Collier Guardian*, June 4, 1926, p. 1226.

even then there will still remain in certain markets an element of danger in the competition of foreign producers, especially the Germans. Some agreement with German producers could in all probability be easily arranged, once the British producers have formed their own selling association.⁴⁸ It is an essential requirement for stability in the export trade and would go far toward eliminating much of the chaos now prevailing in the international market.

Coöperative selling associations promise savings almost as important as those to be obtained from any other single reform. Such an expedient would, moreover, afford to the coal owners of Great Britain a large measure of protection against the growing concentration of their industrial consumers. The need for such protection is daily becoming more acute. The expansion of large gas and electricity companies, and the tendency toward combination, as evidenced by the recent history of the chemical industry, threaten to give to these consumers a strategic position in the coal market. Their size and close relationship promise to give them a bargaining power which may seriously affect

⁴⁸ Mr. Frank Hodges, formerly General Secretary of the Miners' International Federation, has been actively sponsoring the creation of a national coal selling agency to control the distribution of British coal. Such a body, in his opinion, could negotiate "with analogous bodies in other countries for the purpose of price-fixing and the elimination of waste and overlapping in international distribution." A similar proposal was made by Sir Alfred Mond, who in 1926 devoted considerable energy toward organizing the coal trade of Great Britain into a cartel similar to that prevailing in Germany. Sir Alfred went so far as to submit details of a working arrangement to the colliery owners of Great Britain and attempted to form an agreement with German producers regarding the export trade.

the price of coal, once the present market activity slackens.⁴⁹

4. MODERNIZED UTILIZATION

The coal problem is no longer a mere matter of getting fuel cheaply and efficiently to the consumer. The more basic problem, as has been shown, is rather one of getting heat and power in the most direct and economical manner. The most salient source of economy, therefore, lies in the creation of an organization which will make possible the efficient utilization of coal. To attain this end, coal mining must be coördinated with plants which will capture the valuable by-products which coal contains. Further, there must be a coördination of mining and coking with gas and electricity generation in a manner which will enable the surplus heat and power at any one point to be advantageously utilized. It should be evident that such combination cannot be accomplished under present arrangements with coking plants and power stations scattered here and there in isolation throughout the land. This difficulty has long been recognized and the first step toward the necessary unification has been taken through the establishment of an Electricity Board "charged with the duty of supplying electricity to authorized undertakers." Means have also been provided for the compulsory establishment of stand-

⁴⁹ It should be added also that a coördinated selling arrangement might have a tendency to eliminate more speedily the less economic pits. If the German system of output quota were adopted, "the more economic and profitable pits would find it worth their while to purchase, and add to their own output quotas, the output quotas of the less economic and less profitable pits." *Report of the Departmental Committee on Coöperative Selling in the Coal Industry* (Cmd. 2770), 1926, p. 14.

ardized frequency in certain selected generating stations, and authority has been granted by Parliament for acquiring and constructing transmission lines for the interconnection of these stations.

The unified national power scheme is, however, but a beginning. Fully to enjoy the savings which are available, power generation must be associated with the blast furnace and coke oven industries and both in turn with coal mining. In other words, the coal, gas, electricity, oil, chemical, blast furnace, and coke-oven industries must be so related as to make it possible for each to feed the other.

The advantages to be derived from a unified power system appear to have justified in the eyes of the British government the abandonment of the prevailing arrangement of independence and isolation in electricity generation and distribution. But there is even greater justification in combining power production with coal mining and coking. Unification of the electricity system promises to cut the cost of generation by one-half within the next twelve years—a decline which will make possible the sale of current at three cents per kilowatt as compared with six cents per kilowatt today. Carbonization, on the other hand, means providing the nation with high grade household and metallurgical fuels, with cheap gas, and with a goodly proportion of its petroleum and fertilizer requirements.⁵⁰ At the same time there

⁵⁰ A ton of bituminous coal when subjected to high-temperature carbonization yields in round numbers 1440 pounds of coke, 10,000 cubic feet of gas, 22 pounds of ammonium sulphate, 2½ gallons of crude benzol, and 9 gallons of tar. Pogue, J. E., and Gilbert, C. G., *America's Power Resources*, New York, 1921, p. 194.

By the process of low-temperature carbonization a ton of

would be available a large amount of waste heat which could go to the generation of electricity. All of this means a transformed coal industry. It may involve the generation of electrical power at the mine mouth wherever possible. It means, too, the coördination of production and utilization into a unified enterprise. That is to say, the industry must be made to function as a single unit with closely related and interdependent parts. Just how the necessary unification is to be achieved is a matter of opinion. Many ways are available. It may be accomplished by a series of competing large scale units selling heat, power, and by-products. It may take the form of a single trust governmentally regulated. It may require a scheme of nationalization. Whatever the form of organization determined upon, its selection must be relevant to its efficacy in meeting the outstanding requirements of the moment—the capture of every available unit of heat and energy in a ton of coal.

Since the primary interest of the technician is in the efficiency of the coal economy and not in the larger social and economic implications of his program, we must stop at this point to consider where

bituminous coal yields roughly 1,500 pounds of smokeless fuel (coke), 5 gallons of fuel oil, 5 gallons of creosoting or disinfectant oils, 10 gallons of tar oils, and 1,500 to 2,000 cubic feet of gas. Giant Power Survey Board of Pennsylvania, *Report*, 1925, p. 109.

It has been estimated that if 9,600,000 tons of coal were carbonized as a part of the boiler plant operation of the power stations of Great Britain, there would be made available each year about 20,000,000 gallons of "motor spirits," 53,000 tons of sulphate of ammonia, and 120 million gallons of low-temperature tar from which can be made a considerable amount of fuel oil. Brownlee, David, "Low-Temperature Carbonization," *Modern Mining*, June, 1926, p. 196.

the reforms in the field of production, distribution, and utilization are leading. It is clear that the increase of efficiency in production gives an impetus toward the mining of more coal at a lower cost. And if the possibilities of modernized utilization are realized it is to be expected that, immediately at least, less coal will be needed. It appears then that these two tendencies lead inevitably in the direction of intensifying the overcapacity which already exists in the industry by virtue of the falling off in foreign demand.

The outstanding need of the situation, therefore, is that concomitantly with an attack on waste there shall be some means devised for adjusting output to demand. The prerequisite of any program must be to avoid the evils of waste of plant, spasmodic operation, irregular employment—the unavoidable consequences of overcapacity. An attack upon costs, whether by lowering labor standards or through increased efficiency, will be fruitless if it merely leads, as it has done in America, to cutthroat competition and a waste of resources.

It must by now be evident to the reader that any and all of the suggested reforms which might be adopted in the name of order and economy may prove a menace to those who live by coal. An industry concentrating its production in the most efficient undertakings, and utilizing the most modern technique while at the same time faced with a contracted demand for its product cannot maintain as going concerns the 2,500 collieries now operating nor continue to employ the 1,100,000 miners now upon its payroll. Such a situation raises acute problems in

Great Britain today. For with industry generally depressed and unemployment on every side, readjustments of capital and of workers cannot take place automatically. Rather, such readjustments involve new complications in almost every phase of British industry. The probable nature of these complications will be suggested in the final chapter of this volume.

CHAPTER XII

THE SHORTCOMINGS OF INDIVIDUAL ENTERPRISE

While the technician has indicated the reforms which must be undertaken if the mining industry is to be brought to a high level of efficiency, he has not faced the question of the type of economic control which his proposed reforms will require. We must now ask whether these reforms can be achieved with the coal industry organized as at present. Can the elimination of small and uneconomic mines, the reform of distribution, the development of coal utilization, and, fundamental to these, the budgeting of the output to the needs of the market, be effected under a régime of free enterprise? Will numberless individual judgments made under the pressure of the profit and loss calculus add up to a coherent policy? Is this a workable scheme of control in view of the current needs of the industry?

First, as to the need of adjusting output to demand. Whatever may be predicted of the future, of the past it may be said that the continued existence of so many superfluous and uneconomic mines indicates a serious failure in adaptation to existing conditions. We have already pointed to the many small mines which, with little capital and less technical ability at their disposal, lead a precarious exist-

ence, frequently running at a loss, with the hope that a temporary market boom will recoup the deficits shown by their balance sheets. While the industry was growing the demands of the market justified in part the existence of these operations. The smaller undertakings, which produce annually an average of less than 200,000 tons each, contributed over one-eighth of the nation's output in former years, and the 27,000,000 tons they produced played an important part in helping Great Britain meet the wants of her own and foreign fuel consumers. Today, however, with a capacity far beyond any probable immediate requirements,¹ these small undertakings frequently do little else than glut an already burdened market. The accepted theory that competitive forces will take care of this situation and that the gradual elimination of the unfit will soon bring capacity and requirements to a neat balance, appears in this instance to have failed to bring the expected results.

It has failed for at least two reasons. First, the average mine has an unconscionable tenacity which enables it to keep a semblance of life almost irrespective of its economic condition. To be sure, there has been a decrease in the number of mines at work during the period 1913 to 1924,² but the decline has not been nearly proportionate to the fall in the

¹ See Chapter IX.

² In 1913, 3,289 pits were in operation. By 1924, 434 of these had closed, leaving a total of 2,855. Royal Commission on the Coal Industry (1925), *Report*, Vol. III, p. 176.

From 1913 to 1925 there was a decrease of some 2,000 in the number of mines operating in the United States. But this decline of over 25 per cent took place at a time when the nation's output actually increased by almost 10 per cent.

industry's output. Moreover, there is no assurance that many of the mines that have been shut down will not, as in the past, reopen just as soon as a market boom gives signs of a temporary harvest. The truth is that wherever coal production has been allowed free reign, unchecked by any central control, its capacity has in recent years outrun any probable needs for its product. Natural conditions frequently make it cheaper to run at a loss than to shut down. Closing a mine exposes it to the possibility of caving, floods, and other forms of deterioration, and may even involve a complete loss of investment. Nor can capital once invested in a mine be easily withdrawn, since a mine cannot be turned to any other use. It is no rare practice in fact to continue producing at a loss, for the owner can for a time more easily cope with small losses from sales at a low price than withstand the larger losses which might follow the closing down of his operations. In mining it is not always the efficient who survive and the inefficient who die.

Another reason for the industry's failure to adjust itself to the requirements of the market is the continued hostility of the owners to coöperative action on a large scale.³ It is assumed that "self interest" will bring about any such coöperation which promises pecuniary gain. If controlled output offers large returns to the colliery owner, "self interest" can be trusted to accomplish it. Unfortunately, however, it is this same "self interest" that causes

³ Royal Commission on the Coal Industry (1925), *Report*, Vol. I, p. 51; see also Committee on Coöperative Selling in the Coal Mining Industry, *Minority Report*, 1926, pars. 3, 20, and 22.

the mine owner to seek advantages through other and less commendable devices—by wage cutting, for example. The policy of lowering wages in time of crisis is in itself a factor toward making impossible the adjustment of capacity to demand. With wage rates adapted to local conditions the relative age or inefficiency of a given district may be largely offset by lowered costs obtained by way of the labor contract.⁴ The problem of survival becomes one not of productive efficiency but rather one of strategic bargaining power, and many an operation is allowed to continue in existence in spite of its essential uneconomic character.

Nor are conditions likely to be different in the future. Though the present crisis has ominously pointed to the shortcomings of the existing organization, "there is every possibility, indeed probability, that if the present crisis should pass, its lessons also will be forgotten."⁵ "Natural forces" cannot be relied upon to bring the size of the British coal industry within the radius of market demands. "If nothing more were done than to leave economic forces to work themselves out, it would probably be found 20 years from now that over a large proportion of the area the same conditions as those of today would still be prevailing; the number of separate enterprises might have been reduced, but not substantially; there would still be operating very many

⁴ "The principle is to fix the wages on the ability of the industry in a district as a whole to pay, and for that purpose we have to take in every colliery." Williams, E., Royal Committee on the Coal Industry (1925), *Minutes of Evidence*, Thirty First Day, p. 54.

⁵ Royal Commission on the Coal Industry (1925), *Report*, Vol. I, p. 59.

small-scale undertakings just on the margin between success and failure, closing down in bad times and opening again when conditions improved, not remunerative enough, on the average of years, to attract the investment of adequate capital, offering to the workers conditions of employment on the lowest level that the law, or the trade agreements, allowed.”^a

As a matter of fact by its method and point of view the régime of individual control is unlikely to lead to an attack upon the problem of adjusting output to the needs of the market. It was better suited to the needs of a day when the market for coal was almost unlimited, when the primary concern of the mine owner—to which all others were subsidiary—was to produce coal and ever more coal for a growing demand. Today, the menace of destructive competition from foreign countries and foreign substances forces a different problem upon the owners of British coal. To adjust to the modern situation requires a vast amount of scientific and economic information. One must understand the technological drift in coal-consuming industries, the price of substitutes, conditions in competitive producing areas, the signs of the times in the economic world at large. Such knowledge and information is clearly not available to the general run of colliery undertakings. But even if it were, how could the managers of 2,500 separate collieries adapt intelligently to this complex situation? In spite of the specialized functions that have been developed in the distribution end of the industry, a colliery manager

^a *Ibid.*, pp. 59 ff.

cannot by any stretch of the imagination—nor even through technical journals—know what all his neighbors are doing; yet if he acts without reference to the decisions of other colliery managers, his own calculations may lead him into a wilderness of unreality.

The faith that the medley of individual judgments will work to the advantage of the industry as a whole appears to be without basis as far as adjusting output to demand is concerned. Is that faith more justified in relation to other needs—amalgamation, coördinated distribution, scientific coal utilization? Can one trust individuals acting separately to achieve the benefits which would accrue from these necessary reforms? Is it true that whatever furthers the prosperity of the individual mine owner furthers also the prosperity of the industry? Is there here an identity of interest upon which one can rely?

At least one discrepancy between the individual interest and the general welfare of the industry appears in the criteria which must be applied in the inauguration of a policy of amalgamation. Judgments must be made as to which mines should be included in any given combination. The individual owner uses his own commercial welfare as the basis of his judgments. His colliery balance sheet is his primary guide. But the economic justification for a colliery's existence when considered in the light of the industry as a whole resolves itself into a series of factors which lie beyond the confines of the colliery ledger. The location of the coal field, the quality of the coal, the nature of the seams, the

physical relation of one pit to another, the practicability of centralized pumping, drainage, and ventilating, the possibilities of using a single shaft for the combined output of neighboring collieries, and a host of other considerations must go to the making of a valid judgment. Judgments as to survival, in other words, become radically different as the emphasis is shifted from the welfare of the individual colliery to that of the total industry. In the one case the determining factor is the probability of financial return in the immediate future. In the other, the calculus of shillings and pence must be supplemented by a consideration of factors such as the probable life of the coal resources and the national requirements of the future. One is encompassed within the confines of the colliery office. The other must take into consideration all of the forces which have to do with a complex mechanism with innumerable and interdependent parts.

It appears, then, that there is one balance sheet for the individual owner and another for the industry as a whole. The items of each vary and often run at cross purposes. An asset for the individual colliery may be a liability for the total industry and so for the welfare of the nation. If such is the case the interest of the individual colliery undertaking cannot be trusted to take care of the situation. Under the present organization of the coal industry, to say that if each owner seeks his own interest the general interest will be served is like saying that in case of panic or fire the general welfare demands that each individual struggle as vigorously and independently as he can for his own safety.

In the field of distribution the situation is much the same. The commercial welfare of the individual mine owner is not likely to lead to a reorganization of this branch of the industry. The identity of the individual colliery and the market value of its product's trade name have been considered far more important than any coöperative method of distribution or system of grading and pooling which would interfere with the competitive advantage of the individual colliery owner. In like manner the owners, fearful of losing individual competitive advantages, have opposed the pooling of the 500,000 privately-owned railway coal wagons scattered here and there around the country. The fact that such ownership was the necessary outgrowth of primitive transportation conditions which have long since been changed, the fact that private car ownership has been largely supplanted in all other important coal-producing countries, the fact that appreciable saving could be obtained from a system of pooling⁷ are of little significance to the colliery owner when weighed against the possible profits to be derived by one who is fortunate enough to have a supply of wagons above the usual need in times of high prices or the advantage recurring to the owner who can use his cars for storage purposes when markets are dull. The logical development of the emphasis upon the product and profit of the individual firms leads away from coördinated selling agencies in the foreign as well as in the domestic market. By their very nature selling agencies limit the freedom of each undertaking to take advantage of available market

⁷ *Ibid.*, Vol. I, p. 100.

opportunities. They eliminate the possibility of inordinate profits arising from accidental market conditions. Such agencies may effect considerable saving for the industry as a whole, at the same time running counter to the immediate interests of some of the component parts that compose the whole.

In the field of coal utilization the lack of harmony between the individual interest and the wider group becomes even more apparent. Despite the fact that coal utilization promises a most significant source of relief, the *laissez faire* economy has failed to conceive of the problem as within the sphere of the coal industry.⁸ To be sure, the potential profit to be derived from the treatment of coal at the tipple, that is, screening and washing, has here and there spurred an owner to adopt these practices. But further treatment has been assumed to be beyond his province. An occasional colliery owner, it is true, has devoted his energies to the problems of coal

⁸ "Mr. Evan Williams, President of the Mining Association of Great Britain, giving evidence before us, said that the Mining Association were sympathetic to the needs of research and taking active steps to support it; that the Mining Association contemplated steadily increasing the funds available for research, but as at present advised, they did not propose initiating or carrying out research themselves; their idea was to give financial support to bodies which were conducting research, if they were satisfied that their objects were for the good of the industry. Mr. Evans Williams further said that the British Colliery Owners' Research Association had not so far taken the initiative in indicating the type of research that should be done.

"We think that this attitude indicates an insufficient appreciation of the importance of the question. *While research alone will not overcome the difficulties from which the industry is now suffering, we feel strongly that steady and continuous investigation into all pertinent problems is essential if the industry is to prosper and to provide good wages and conditions for its workers.*"

(Italics are authors'.) *Ibid.*, p. 39.

utilization,⁹ but by and large, the prevailing system has failed to bring about a coördination of coal mining and coal using.

The advantages to be derived from the treatment of raw coal have already been stressed. Yet relatively little scientific attention has been devoted in Great Britain to the existing and possible uses of coal.¹⁰ What research has been done has emanated primarily from the gas, the coke-oven, and other allied industries and not from the coal mining industry which had most to gain from such research.¹¹ One cannot, however, logically expect the individual colliery owner to devote his energies to the pioneering work which coal utilization demands. The problem is not his as an individual. "Problems connected with the utilization of coal concern not only the coal industry but every industry, perhaps every individual in the country."¹² There is a conflict here between what is economical for a single plant and what is economy from the point of view of the industry and the nation as a whole. To produce a smokeless fuel and to capture the by-products contained in

⁹ Ninety-five colliery companies are today engaged in the production of by-products. The Right Honorable Baron Gainford of Headlam, Royal Commission on the Coal Industry (1925), *Minutes of Evidence*, Twenty Eighth Day, p. 2.

¹⁰ Royal Commission on the Coal Industry (1925), *Report*, Vol. I, p. 37.

¹¹ In 1925 the coal owners of Great Britain established the British Coal Owners Research Association whose function it is to undertake research into the problems of coal mining and coal using. Thus far the association has undertaken no research of its own, and its policy for the immediate future will be to aid financially other institutions interested in coal research.

¹² Royal Commission on the Coal Industry (1925), *Report*, Vol. I, p. 40.

raw coal may be an unprofitable venture for the individual firm, and yet at the same time in terms of the saving to be derived from cleanliness, the utilization of waste heat, gas, and motor spirit, such production may mean incalculable gains for the nation.¹³ The problem of coal utilization extends, it is clear, far beyond the single undertaking from which, as things now are, all initiative must proceed. The individual plant does not have the funds necessary for the research that must be undertaken. Such research must by its very nature be a joint venture.

Likewise in the field of electrical generation it is unlikely that the colliery owner's self-interest will work to bring about a coördinated system which, among other advantages, would eliminate the wasteful practice of generating steam power by isolated privately owned steam plants. It is generally agreed that if the electricity industry were unified and centrally managed vast economies could be attained. These economies which from the point of view of the nation mean an annual saving of 55,000,000 tons of coal mean a corresponding immediate loss of markets to the coal owner. The fact that there would be a saving to the nation in the form of

¹³ There is no logical reason why the coal industry could not stimulate the consumption of the by-products which would result from coal utilization if it undertook to do so as an organized group. The American anthracite industry has in recent years successfully created a demand for a certain portion of its product which previously had little market value. Similarly the British coal industry should be able to stimulate the use in the household grate of the smokeless fuel produced in the by-product oven. Indeed, the Royal Commission of 1925 went so far as to suggest that if the public were reluctant to modify old methods Parliament might accelerate the consumption of smokeless fuel either by imposing a tax on raw coal or by prohibiting its use. Royal Commission on the Coal Industry (1925), *Report*, Vol. I, p. 27.

cheaper electricity generating costs cannot be expected to influence the coal owner in favor of a movement for a coördinated system. He might, to be sure, be enabled to dispose of his poorer grades of coal which now find little or no market at the small power plant. And lower electricity prices might in time increase the demand for power and eventually for coal. But the essential concern of the coal owner is the immediate effect of coördinated electricity upon his sales. Self-interest is less concerned with what may happen eventually than with the calculable future.

Irrespective of the attitude of the coal owners, a revolution in the methods of coal consumption is bound eventually to come. The question at issue is whether this revolution, like most other changes which have taken place under the present organization, is to be a slow and disorganized affair receiving its impetus here and there only when some individual, outside of coal mining, experiments with new methods of fuel utilization in an attempt to cut his fuel costs, or is rather to be a group undertaking sponsored and stimulated by all of those whom it concerns—an undertaking which has as its end not the profit of a given individual, but rather the welfare of the industry as a whole.

This lack of harmony between the individual interest and the total welfare is the fault of no single individual. Indeed, the individual acting alone is helpless when he attempts to bridge the chasm. Certainly the mine owners cannot be blamed for finding that the world around them has changed. The situation indicates that a system of control

which leaves decisions to isolated individuals is no longer adapted to a coal industry which must function in a world of complex machinery, giant power, and rapidly changing technique. The primary need is that there shall be coördination—that some instrument shall be created to think, to plan, to make decisions, and to act in reference to this total complex social situation. This does not mean a negation of individual effort. On the contrary, it means giving wider scope to individual initiative and enterprise. But it is idle to deny that such initiative and enterprise must today be directed and coördinated if it is to be made most effective. Our old “competitive convictions” are so out of harmony with the twentieth century technology that it becomes questionable whether they are any longer adequate for the guidance of industrial activity.

CHAPTER XIII

NATIONALIZATION

There is no other single proposal for dealing with the coal industry which has aroused half as much passionate protest and advocacy as the nationalization of the mines. For years it has been the center of active debate in mining circles and indeed wherever men have been concerned with the problems of the industry. To its advocates it has been the key to salvation; to its opponents it has been the one remedy sure to prove fatal to the interests of all concerned. One may be certain that wherever practical policy is in question in Great Britain, the issue of nationalization will sooner or later become dominant. It is therefore essential to examine at some length the scheme of arrangements which the nationalization of an industry implies.

The impulse toward nationalization is grounded in many different motives and voiced by many different groups. We have already traced the origin of the idea and its meaning for the miners whose special gospel it has become. It is a striking fact, however, that groups with very different points of view have rallied to the support of the idea. Indeed, the burden and heat of the argument has been largely borne by students of industrial and social

organization. A surprising proportion of social theorists and economists in England whose names are internationally recognized have at one time or another lent their support in favor of a change in the ownership and control of the mines.¹

In the advocacy of nationalization two chief lines of justification are discernible. Against the wastes of private enterprise, nationalization is defended as a more efficient instrumentality for carrying on the coal business of the country. But it is also defended on other grounds which have to do not so much with efficiency as with the quality of life of those engaged in or affected by the industry. It is claimed that within the framework of nationalization individuals will function more effectively; that to work for the common enrichment of the community instead of for private profit makers and to share in the actual control of the industry will create for workers and technicians new stimuli and incentives. In the long run, it is argued, this will mean a more intelligent and responsible group of workers. As against the present system of "selfishness scientifically applied," it is conceived that a social organization may be more nearly approximated in which the good of each shall be the good of all. Nationalization has been supported sometimes on the ground of economic efficiency and sometimes on the ground of moral consideration, much to the confusion of the issue. It is commonly held by the advocates of nationalization, however, that the peculiar merit of

¹ Among this group will be found G. D. H. Cole, Arthur Greenwood, L. T. Hobhouse, J. A. Hobson, R. H. Tawney, Graham Wallas, Sidney Webb.

their proposal lies in the fact that both moral and economic advantages will be secured.

A common confusion which runs through the discussion of the subject is the assumption that nationalization in itself provides an answer to the riddles now besetting the industry. Nationalization is, however, only potential machinery. It can no more dispense with a formulation of policy or with able personnel than can other types of organization. It implies no ready-made theory for the solution of the basic problems common to all economic activity. To the questions, how much shall be produced, how much toll shall the industry levy on the community, how shall the total net receipts be divided between the different groups engaged in production, what standard of living on the part of the workers shall be taken as first charge on the industry—to these fundamental questions nationalization cannot reply by any *a priori* reasoning.

To disavow nationalization as an ultimate answer, however, is not to belittle its significance. On the contrary, in every sphere of life the finding of the best possible machinery is indispensable to the achieving of the best results. The machinery of industrial organization determines the relationships in which people work together and thereby determines their attitudes and modes of behavior. Courts, treaties, parliaments, banks, police, charity, the church—are all bits of social machinery, mechanisms by means of which our social life is carried on. Nationalization, like competition or public regulation, must be judged by determining whether it is effective in harmonizing constructively the produc-

ing and consuming interests of the industry or whether it creates more serious obstacles than it removes.

The point of departure of those who advocate nationalization is the conviction that there is no automatic healing power within the coal industry; that, if left alone, it will not "work out its own salvation in obedience to economic law." Therefore, some deliberate scheme of control must be wrought out. Nationalization looks at the industry as a group of functions which may be performed in many ways other than by competition and it aims to order these functions according to principles other than private profit-making. To those who maintain that they "view with grave apprehension the growing tendency to replace the action of economic law by government interference,"² the advocates of nationalization claim that they propose merely to substitute a set of orderly economic arrangements for a set of chaotic ones.

I. THE VARIED PLANS OF NATIONALIZATION

The conceptions of state control have been undergoing profound transformation, and the idea of nationalization, as we have seen,³ has been given a different content at different periods. It was in 1919, at the time of the Sankey Commission, that plans for the nationalization of the coal industry were first wrought out in detail, brought before the public, and fully and freely discussed. The temper of the period was hopeful and on the whole large-

² Coal Industry Commission, *Minutes of Evidence*, Vol. II, p. 1121, 1919.

³ See Chapter VIII.

minded. Many besides the workers were stirred with the hope of giving wider meaning and fuller scope to the ideal of democracy. The nationalization of coal was seen by its advocates as the answer to the two great needs of the period. First, the industry must be unified and thus freed from the wastes and inefficiencies of separate competing concerns. Second, workers of all grades must be given increased participation in control both in order to increase productivity by utilizing the miners' craftsmanship and experience, and in order to temper existing antagonisms.

The three chief plans under discussion at this period were those of Mr. Justice Sankey, Chairman of the Sankey Commission, of Mr. Sidney Webb who presented his suggestions as evidence before the Commission, and of the Miners' Federation whose scheme was embodied in a bill on the Nationalization of Mines and Minerals.⁴ Varied as were the

⁴ Mr. Justice Sankey's plan provided for a Minister of Mines responsible to Parliament, presiding over a National Council composed of members elected in the ratio of one member for every five million tons of output. This Council was to meet three times a year. The Minister was to be assisted by a standing council of eighteen—six consumers, six workers, and six technical and commercial representatives. There were to be fourteen district councils composed of a chairman appointed by the Minister of Mines, a Vice Chairman, four workmen, two consumers, two technical and two commercial representatives. The function of each District Council was to manage in its District "the entire coal extraction." There were also local mining councils whose function it was to advise with the manager. Failing agreement, the question went to the District Council. The finances of the industry were to be separate from the Treasury and each District was to keep separate accounts.

Mr. Webb's scheme provided for a Minister of Mines responsible to Parliament and in control of a Mines Department with branches including Safety and Health, Research, Scientific Costing and Measurement, Equipment and Stores, and Allocation of

administrative devices suggested, all of these plans agreed upon the acquisition by the state of the mineral resources and of the mines; the unification of the industry under a single authority; provision for decentralized management by groups interested in the industry; rejection of civil service regulations; and the provision for autonomous financial control. To those interested in constitution-building in industry, these plans for nationalization afford one of the richest fields for study anywhere available. They have provided necessary and valuable data for making the nationalization issue vivid and clear, and have helped to lift the problem from the realm of catch-phrases and barren formulæ to the reality of concrete ways and means.

During 1925-26, nationalization became identified

Coal. A permanent National Council on which experts, workers, and consumers had representation was to assist the Minister. He was also to appoint District Superintendents to carry on the work of the districts assisted by Local Councils, and Managers who were to work with advisory Pit Committees. The guiding principles of national administration under this plan are (1) centralized national determination of policy, (2) district autonomy in execution, (3) participation in the administration, central and local, of all grades of the staff, (4) scientific costing of each section of the operations, (5) perpetual comparison of results, (6) continuous scientific research.

The plan of the Miners' Federation suggested a Mining Council of twenty—ten appointed by the Crown and ten by the Miners' Federation, to be presided over by a Minister of Mines appointed by His Majesty and responsible to Parliament for the acts of the Mining Council. The Council was to be a corporation and "may do anything the owner of a mine might lawfully do in the working of a mine." The District Council of ten members was to be chosen, half by the Mining Council and half by the workers. The Pit Committee was to share the executive authority with the manager. A Fuel Consumers' Council, advisory in character, was to be established "for the purpose of advising the Mining Council." Its members were to be government appointees.

with the achievement of still wider ends than those proposed in the earlier plans. In this period the coal industry was on trial for its life. The broad humanism and the optimism characteristic of the period of reconstruction had been replaced by a desperate and grim realization that something fundamental must be undertaken. That which was in 1919 a dreamed-of Utopia—the reorganization of the industry—had by 1926 come to be regarded as the sternest of necessities. The industrial depression of the post-war years, with its high toll of unemployment, had focussed attention on the general economic situation of Great Britain. It had served to accelerate trends of thought already under way, quicken new interest in the problem of British industrial technique, and sharpen curiosity in regard to technological developments in foreign countries. The thoughtful had become aware of the essential unity underlying all of Great Britain's industrial problems. Men of different political parties and of varying economic faiths proclaimed that salvation for the coal industry could be achieved only if its problems were attacked concurrently with wider economic issues. In 1924, Mr. David Lloyd George had made a step in this direction by his report on *Coal and Power* in which he expounded the theory that the coal problem could not be considered without reference to electrical development. And in 1926, the advocates of nationalization presented a project far more comprehensive in scope than any earlier plan, a project which had its origin in the new outlook on industrial problems of the day.

This plan,⁵ submitted on behalf of the Miners' Federation before the Royal Commission on the Coal Industry, presents points of vivid contrast with the earlier schemes of nationalization. The earlier plans started from the need of unification within the coal industry as a method of clearing the ground for the many needed reforms. The later proposal takes unification of coal as a starting point but builds the coal industry into a national scheme which integrates mining with a national power and transport system.

The plan was based upon the conviction that even though the future of the British coal market be uncertain, coal mining, if coördinated with by-product manufacture and power generation could be made profitable. In support of this thesis the miners pointed to the large potential demand for electrical power in Britain. "In respect of economical and efficient generation and transmission of electrical power" Britain falls far behind Germany, France, and America. Cheap power, moreover, coupled with rural electrification would give the needed stimulus both to industry and agriculture. In cheap power, the pre-treatment of coal, and the stabilization of the coal industry, according to the miners' report, lies the economic regeneration of Great Britain. But cheap power depends upon a scheme of power zones skillfully planned in relation to the mining areas, and the treatment of coal is

⁵ The plan was discussed and sponsored by a Joint Committee representing the Miners' Federation of Great Britain, the General Council of the Trades Union Congress, the Executive Committee of the Labour Party, and the Executive Committee of the Parliamentary Labour Party.

bound up with a large-scale development of electrical power. These enterprises must, therefore, be linked with the coal industry. "Only a scheme of national character can meet such a need." Privately owned trusts, the miners felt, would be "a menace to the welfare of the community" and they, therefore, put forward as an alternative a nationally owned undertaking.

The miners' scheme proposes that the industry be placed in the hands of a central executive committee, appointed by the government, to be known as the Power and Transport Commission, and to consist of men possessing expert knowledge and experience in the different branches of power and transport, as for example, of coal, electricity, gas, railroads, commerce, and labor. Their function would be to survey the problems of power and transport development; to undertake and administer the interconnection of generating stations and trunk line transmission; to lay down conditions governing power and transport undertakings, public and private; to coöperate in the question of research into power production and coal by-products and to arrange for the commercial application of the results obtained through research.

The actual organization and conduct of the industry was to be entrusted to a National Coal and Power Production Council to be responsible in much the same way as a Board of Directors is responsible for the conduct of any private enterprise. The internal affairs of the industry, the selection of the most efficient methods of producing and treating coal would fall within its jurisdiction. In the mat-

ters of volume of output, kind of output, type of plant for treatment, research and so on, it would act in conjunction with the Power and Transport Commission with whom the final decision in these matters would ultimately rest, and whose sanction would be required for capital expenditures in excess of a certain amount.⁶

Within the framework of the national system provincial councils were to supervise and administer the industry within each district, subject to the ultimate control of the Coal and Power Production Council.

To protect the consumers the new scheme provided for a Consumers' Council,⁷ whose purpose would be to care for all the concerns of the consumer, including methods of distribution. Since the consumer is interested primarily in the price which he must pay for coal the chief function of this board would be to determine market prices. But since prices and wages are closely interrelated this council would also have the duty of fixing wages. Both functions, however, would be exercised in conjunction with the Coal and Power Production Council. In case of failure to agree in regard to proposed price or wage changes, the matter in question would be referred to a Court with a personnel and terms of reference agreed upon by the parties concerned.

⁶ The Coal and Power Production Council would be composed of an equal number of executive and administrative officials and of miners and by-product workers, perhaps twelve in all, elected by their respective organizations. The Council would be presided over by the Secretary of Mines.

⁷ It would be composed of representatives of workers and employers in coal and power using industries, coöperative societies, local authorities, and the body carrying on the export trade.

Should no compromise be effected, the President of the Board of Trade would be called upon.

Of all the panaceas suggested during the recent crises it must be said that this is the one which deals most frankly and rationally with all the factors in the situation. It recognizes the need of a renaissance of industrial technique and makes provision for power development and coal utilization on a large scale. It attempts to put the coal problem in a new and effective perspective for the present generation. It takes active account of the fact that the needs of modern technology demand a new form of organization and it looks forward to stimulating and guiding the economic life of the country under a "New Republic of Power."

Nationalization, however, cannot be regarded as the only way in which such a reorientation might be achieved. Between private enterprise as now carried on and nationalization there are many different kinds of public coördination and control which might conceivably be adopted to achieve the ends of an efficient industry effectively related to the economic development of the country. As a matter of fact, however, in the formulation of alternatives to nationalization—private enterprise combined with some kind of public control—no thoroughgoing attack has been made upon the problem of unifying coal with power and by-product development. This is not a mere accident. The attitude of mind which stresses the importance of keeping private enterprise, even while admitting the necessity of control, is likely to rely upon individual rather than coöperative effort to achieve technical development. It

is likely to be hostile to any preconceived scheme of economic activity—to any collective action on a large scale.

II. THE PROBLEMS OF ADMINISTRATION

If one lists the arguments for and against nationalization, it becomes clear that supporters and opponents make exactly opposite claims for the system and predict identically opposite results in almost every sphere of its influence. "Nationalization will secure a cheaper and more adequate supply of coal." "It will raise prices." "It will mean a more contented labor force and increased output." "Miners will do less work and demand higher pay if the state is their employer." And so the futile discussion is carried on in terms of prejudice and precommitment. But nationalization can be studied in more sober and accurate fashion by an examination of the precise measures suggested for the conduct of the industry. If one would judge nationalization or any scheme of control, one must know how specific tasks would be carried on, by whom and under what circumstances. The nationalization question, it is true, cannot be "settled" on any evidence which may be presented in advance of experimentation. There is no appeal to experience on which sure judgment can be based. But this lack of finality should not deter us from exact examination of the proposed schemes. Whether we favor or oppose nationalization it is well to know exactly what it means.

One striking aspect of nationalization is the compatibility of its meaning with a wide variety of

administrative arrangements which may be combined in a variety of ways. A full discussion of these suggestions would lead us far afield in the realm of administration. Yet we may with profit venture far enough to make clear the range of alternative methods for dealing with the problems common to all industrial undertakings. Such a discussion should serve to show how far thought has traveled from the conception of a national industry administered on the straight lines of Civil Service regulations as practiced by the Post Office. It should serve also to make more questionable the assumption that nationalization *must* mean "overcentralization," "management from Whitehall," "bureaucracy," "red tape," "Civil Service incompetence," "Treasury control." "It is too much perhaps to expect that critics should burn their arsenal of controversial literature. But in view of the nature of the schemes now put forward . . . the greater part of it is as obsolete as the armaments of the Stone Age." ^a

Discussion of the administrative side of a nationalized industry must inevitably move in the field of speculation. Any advocate of nationalization, however strong his belief, must recognize that we are dealing here with values which can be realized only after imagination, thought, and experimentation, have turned the suggestions into a working policy. Nationalization is as yet only a body of suggestions dominated by a central idea and leading in a definite direction. But it is probable that these suggestions

^a Tawney, R. H., *The Nationalization of the Coal Industry*, p. 29.

are the stuff out of which future policy is to be made. Any study of the administration of the industry must therefore give them careful consideration.

The debate about administration centers largely around the difficulties supposed to be inherent in all government operations. A vast amount of polemic, for instance, has been directed toward the unsuitability of an already overburdened Parliament to conduct an industry as complicated, as diverse, as dynamic as mining. The question at this point is whether Parliament should be the ultimate authority in the industry and if so, how far this authority should extend to administrative details? Various answers have been given. The same type of ministerial responsibility for the mining industry has been proposed as for other government departments, such as the Army and the Navy.⁹ It has also been suggested that the Minister of Mines should be responsible to Parliament for the acts of a mining council over which he would preside, but that the decisions of the council instead of being merely advisory should carry executive authority.¹⁰ This break from tradition¹¹ has been defended on the ground that in dealing with the important and

⁹ See plans of Mr. Justice Sankey and Mr. Sidney Webb, p. 321, footnote 4.

¹⁰ See Miners' Federation Plan of 1919, p. 321, footnote 4.

¹¹ "Although in origin and legal organization the departments of state are very unlike, yet the growth of custom, and the exigencies of parliamentary life have, for practical purposes, forced almost all of them into something very near one common type. Whatever the legal form of the authority at their head, the actual control is now in nearly every case in the hands of a single responsible minister, usually assisted by one or more parliamentary subordinates and supported by a corps of permanent, non-political officials who carry on the work of the office." Lowell, A. Lawrence, *The Government of England*, pp. 81-82.

varied issues of a mining service, the sober decision of a council of experts would carry more weight in Parliament than the opinion of a single minister, however able.¹² Another departure from standardized procedure has been the suggestion of administration through a series of Statutory Boards and Commissions exercising wide powers under the authority of Parliament. Still another plan has made the mining administration quite independent of Parliamentary control. Such a scheme, submitted in France, gave to the decisions of the Central Council of the Mining Administration final authority. Only once a year, when the Council presented its report, was the industry to become a subject of Parliamentary debate. The variety of these different plans is fatal to the uncritical assumption that under a scheme of nationalization Parliament would be inevitably drawn into the direct and detailed management of the industry.

In any administrative scheme, whether industrial, educational, or social, the allocation of authority and responsibility for detailed day-to-day policies is of essential importance. At this point a vigorous attack has been directed at nationalization by its opponents. They have assumed and have asserted quite uncritically that government control must by its very

¹² The impairment of ministerial authority suggested in this scheme has been vigorously challenged. Viscount Haldane on the basis of wide experience in administrative affairs maintained that if a Council working with the Minister were made authoritative "he will shelter himself behind them in Parliament and a half a dozen men are never as good as one in proportion, in my experience. The great thing is to take a really competent Minister and give him a full sense of responsibility and authority." Coal Industry Commission, 1919, *Minutes of Evidence*, Vol. II, p. 1085. See also *Machinery of Government Committee Report*, p. 11.

nature be highly centralized. And, as has often been pointed out, the fact of wide physical variations from district to district and from mine to mine would make centralization in the mining industry peculiarly dangerous.¹³ The advocates of nationalization, however, have not been unmindful of this difficulty. No one has insisted more strongly than they that existing governmental procedures are too slow and too inelastic to meet the exigencies of a large and varied industry. As a matter of fact, the plans of nationalization lay great emphasis upon decentralization, and make provision—in varying degree—for local autonomy through district boards and pit committees. The distribution of executive authority is carried so far in the Sankey plan as to make the District Board responsible for “the entire coal extraction, regulation of output, opening and closing of mines, trial sinkings,” etc., subject only to general supervision by the state. It is clear that there is a wide gulf between such procedure and the ordinary departmental organization of state enterprise. There has been no failure to recognize that the exact allocation of power between central, district, and local councils must be a matter of experimentation. On the other hand, certain tasks have been marked out as clearly national in scope—provision for research, the equating of supply and demand, the allocation of output to different dis-

¹³ “One fact appears never to be sufficiently grasped by those who advocate nationalization—that no two collieries are alike: that each colliery possesses natural and physical features peculiar to itself.” Coal Industry Commission, 1919, *Minutes of Evidence*, précis of Lord Gainford in behalf of the Mining Association, p. 811.

tricts, the control of foreign sales, and the maintenance of standards in regard to safety and health.

Whether an industry be publicly or privately controlled its success will depend to a great extent upon the attitude and ability of the labor force and the technical and managerial skill which it is able to command. Perhaps the crux of the nationalization controversy centers at this point. A large part of the battle has been waged about the relative opportunity and stimulus which might be afforded to the technical staff and to the rank and file of workers in a nationalized mining service. The plans for nationalization break sharply with the tradition of private enterprise in making provision through representation on central, district, and local boards for the participation of technicians and workers of all grades in the control of the industry. Through the instrumentality of these coöperative devices, it is hoped to make more effective the disinterested judgment of the technician and to receive from the rank and file of miners a far more hearty coöperation by meeting their desire for a change of status.¹⁴ Whether or not this will be true depends in large measure upon the play of incentives directed to maintain efficiency. The advocates of nationalization adopt the hypothesis that stimulus to achieve-

¹⁴ "In no industry is such coöperation more necessary than in the coal industry, because of the special significance of questions affecting the safety of the workers in the mines and by reason of the much greater proportion which wages bear to the total cost of production in the coal industry than of other industries." Royal Commission on the Coal Industry (1925), *Minutes of Evidence*, Thirty First Day, p. 16. "The biggest waste in industry is the waste of human motive." See Coal Industry Commission, 1919, *Minutes of Evidence*, Vol. II, p. 553.

ment does not come as a gift from the gods but is a matter within human control, to be studied and introduced with a careful recording of the results. They maintain that it is possible for a nationalized service to evolve a technique for keeping open the channels of advancement for administrative and technical workers as well as for the rank and file of manual laborers. They find no necessity for a nationalized service to be bound to the Civil Service practice of selection and promotion by length of service, to the "minuting of opinions and reports from one servant to another," and to various other entangling regulations common to government procedure.

The issue between private enterprise and nationalization on the matter of incentive is not that of the elimination of the appeal to self-interest. Both systems make that appeal. The question is whether other motives can be brought into play—the pride of workmanship, the identification of one's self with the enterprise, and devotion to the welfare of the community. Under the scheme of private ownership the play of these motives tends to be restricted to the "owners"; the scheme of nationalization would attempt to make them operative throughout the entire personnel of the industry. It has been asserted that "all assumptions as to what will happen under nationalization are based on the belief that there is going to be some sudden change in the spirit of the miner";¹⁵ but nationalization rests its case rather upon a change in the character of the

¹⁵ Coal Industry Commission, 1919, *Minutes of Evidence*, Vol. II, p. 811.

Miners' Federation. From a fighting organization it is expected to become a constructive agent, freely coöperating with others for the carrying on of the industry.¹⁶ If private ownership carries with it the sense of proper responsibility for the welfare of the industry and the community it is logical to expect that a corresponding responsibility for workers and technicians would develop in them the same responses toward the industry and the community. Human nature is very largely constituted by the job it has to do, and one of the most certain criticisms that can be made of present day industrial procedure is that it relegates the function of responsible thinking to a very few.

The criticism, however, is easier than the cure. The end to be achieved cannot be secured by any superficial or formal scheme of democratic control. The sense of responsibility must be present in ways which make an immediate and constant appeal. How, for example, shall the rank and file of manual workers be given the sense of controlling their own destiny? Certainly the use of the ballot box once a year, while it may contribute a needed sense of justice and confidence, will hardly serve to develop individual responsibility or to arouse deep interest in the success of the industry. A voice in the controlling policy is probably not so important as the day-to-day coöperation in production in the places

¹⁶ See Cole, G. D. H., Précis submitted to the Sankey Commission. "Excluded from direct participation in management and control, Trade Unions and workmen are confined in the main to the imposition of negative forms of control, *i.e.*, virtually to a veto on certain methods of using and organizing labour." Coal Industry Commission, 1919, *Minutes of Evidence*, Vol. II, p. 549.

where production is carried on. In the pits and in the colliery villages, one may venture to assert, the problem can be worked out most satisfactorily.¹⁷ Here is a group of questions which remains to be answered under any scheme of control—the translating of industrial democracy into terms compatible with the highest efficiency in industry and the largest measure of self-respect and self-expression on the part of the workers. The advocates of nationalization maintain that the machinery they propose provides at least one promising way of proceeding toward such a solution.¹⁸

There is no point at which nationalization must be judged more critically than in its methods of adjusting the relation of producers and consumers. The underlying assumption of private enterprise is that competition is a protective force giving to buyers a fair equivalent for their expenditure and to

¹⁷ As a step in this direction the miners' plan of 1919 suggested that the Pit Committee share the executive authority with the mine manager so far as such authority would not impair the manager's executive responsibility under the Coal Mines Regulation Acts. This "dual" or "joint" control was, however, subjected to sharp criticism. Indeed, the exact share of control which should fall to the workers and to other groups has been a matter of keen dispute. To have the workers in a minority, as in the Sankey plan, seems unsatisfactory to the miners and to others who claim that efficiency is most likely to be secured by throwing the responsibility for success directly upon those who carry on production. (See Cole, G. D. H., *Workers' Control in the Mining Industry*, Workers' Control Series, No. 1, p. 22.) On the other hand, the miners' scheme of equal representation for miners and technicians has been labeled as "anti-social" on the ground that the plan removes the industry from the control of the community in whose behalf it is presumably being carried on. (See Coal Industry Commission, 1919, Vol. II, pp. xvii and xxiv.)

¹⁸ For an excellent discussion of administration in a nationalized service and particularly of the training for administration, see Viscount Haldane's testimony, Coal Industry Commission, *Minutes of Evidence*, Vol. II, pp. 1082-1091, 1919.

sellers a fair reward for their effort. But with the elimination of competition, nationalization must work out its own assurances to the consumer in terms of quality, regularity of supply, and price. The guidance of rational policy must replace the operation of the so-called natural laws. More specifically, nationalization is faced with the task of protecting the consumer from the abuses of a private monopoly and at the same time creating a service which shall be sensitive to the intricacies of the consumptive interests. Can these interests, for instance, be adequately dealt with by Parliament merely through its determination of wages and prices? Should the consuming interest, which after all is an interest in "cheap coal" rather than an interest in the technicalities of production, be built into the very structure of industry by being given a place on Boards of Control? If consumers are to be thus represented, what bodies should speak for them? Should local authorities, coöperatives, coal-consuming industries, and the domestic consumer all find a place? And if coal-consuming industries are to be represented, shall it be the employers, technicians, or workers of such industries?

The plans for nationalization are interesting in their different suggestions along these lines. One scheme ¹⁹ relies upon Parliament to voice the consumers' interest, and gives them little responsibility in the direct management of the industry. Another suggests ²⁰ that consumers be given an equal place with workers and technicians on the various councils

¹⁹ See plan of Mr. Sidney Webb, p. 321, footnote 4.

²⁰ See plan of Mr. Justice Sankey, *ibid.*

of the industry, thus extending to them a share in executive control. Proposal has also been made for a Fuel Consumers' Council ²¹ advisory in character, to confer with the Central Mining Council on all matters affecting both the industrial and domestic consumer. A later scheme transformed this advisory consumers' council into a body which was to determine wages and prices, in conjunction with the directing council of the industry. All of these schemes have apparently something to offer in the devising of machinery for the safeguarding of the consumer under a scheme of public control. If they differ from prevailing methods of protecting the consumer in monopolized industries—public utilities for example—it is in giving to the consumer greater representation.

In the coal trade it is not enough, however, to make provision for the domestic consumer. The interest of the foreign consumer is also of importance. Indeed, the export trade has seemed to many to offer one of the greatest obstacles to the nationalization of mines in Great Britain. Two chief difficulties have appeared. If the government were to discriminate between foreign buyers as private traders must do, it would be hard to avoid international complications.²² Another, but allied, difficulty is

²¹ See plan of Miners' Federation, *ibid.*

²² "Under nationalization, with this export trade under the real, even if it were indirect, management of the British Government, we should be regarded by foreign countries not, as in Napoleon's phrase, as a nation of shopkeepers, but as a nation of coal merchants. That we should in fact become, and the consequences in our international relationships could not be contemplated without concern." Royal Commission on the Coal Industry (1925), *Report*, Vol. I, p. 71.

found in the fact that rapid decisions and great freedom in regard to price policy are required in the severe competitive struggle between foreign nations, and a nationalized export service is usually conceived in terms of slow, stereotyped, and uniform procedure. Moreover, the exporter's task is a complex and highly skilled one. He must be conversant with the different kinds of coal needed abroad, the freight market, and "conditions at the Port of Delivery." His knowledge and initiative must far exceed that of any routine officer. These apparent difficulties rest upon the assumption that an export trade would be directly managed by a government department. As a matter of fact, however, there are many ways of dealing with the exporting of coal. The present exporters might be left free to conduct the trade on a commission basis, sharing profits over a given amount with the mining service. Or, as suggested before the Royal Commission (1925), the export trade might be unified and placed in the hands of a Coal Export Commission which would purchase coal from the industry and carry on the foreign trade. Or, again, a Public Utility Corporation might be formed consisting of existing coal exporters, that is, a joint stock company operating under a definite limitation of the rate of dividend payable and such other regulations as the state may wish to impose.

It is not to be supposed that a nationalized coal industry will escape the puzzles and perplexities of finance. The success of the scheme as of all business schemes will tend to be measured in monetary terms and the determination of policy will be colored by expected financial results. The extent of the capital

charges to be borne by the industry's product will for the most part be determined by the initial price paid for the pits when they are taken over. Various estimates have been made as to the amounts which will be involved in purchasing the collieries and recent estimates have run over £300,000,000. The determination of the exact amount will, of course, have to be left to an expert compensation commission. However this amount is determined, all plans for nationalization, with slight differences, make provision for the transfer from private to government ownership by means of government bonds. The interest charges on these securities would, according to these plans, be "charged on the proceeds" of the national coal industry and provision would be made for their redemption at a definite date by a sinking fund. Under such a scheme, it has been held, the capital costs would be substantially lower than under private ownership, for the securities issued would have behind them the credit of the British Treasury.²³

²³ Consideration would have to be given to the capital charges for those pits which, though purchased, would have to be shut down. The investment on these pits might either be retained intact on the balance sheet or amortized over a period of years. In either event the charges involved would have to be met from the earnings of the mines which are selected for operation. Such charges are not, however, rare in privately owned industries. In the railroad industry, for example, a new tunnel, bridge, or cut-off, by shortening the distance between two points, may make valueless miles of right of way and tracks which formerly were used. In such instances the charges for the investment on the old right of way are carried by the newly constructed section of the railroad. Eventually, of course, the investment on the abandoned right of way is written off by way of the obsolescence column.

The effect of state ownership upon the carrying costs of an industry is well presented in the following statement of Commis-

To the contention that such a loan becomes a government obligation and that the taxpayer would have to bear the burden of interest payments should the industry fail to meet capital charges, the advocates of nationalization reply that like any privately owned enterprise the charges on the loans would be the industry's first liability. "If the industry cannot pay its way it must either introduce improvements which will enable it to do so, or those who are engaged in it must accept inferior conditions." "The last thing we contemplate is that the industry should be parasitic on the community as a whole."²⁴

It must be recognized, however, that even with a sioner Eastman of the United States Interstate Commerce Commission:

"The railroad property of this country, under even the method of determining fair value for rate-making purposes which has been followed in this case, probably represents upward of \$20,000,000,000 upon which the people of this country must pay the equivalent of interest. If this were indebtedness of the government, without doubt steps would be taken to reduce it, particularly in times of national prosperity, and this could be done without serious increase in burden. An illustration which I have often used is that of the subways of Boston, which are owned by the city. They are leased to the operating company for a yearly rental of 4½ per cent, which is sufficient to meet the interest on the city's indebtedness and at the same time to provide a sinking fund which in due course will retire the debt, so that there will no longer be any interest charges whatever to pay. Already this sinking fund amounts to several millions of dollars. But in the case of the railroads there is now no means by which the capital burden can be reduced a single penny. The public could provide funds sufficient to pay off the entire railroad indebtedness and still the obligation to pay a return upon at least the total original investment would remain. This is an anomalous and disturbing situation and one which, as I see it, is utterly opposed to the principles of sound economy." Eastman, Joseph B., Interstate Commerce Commission, *Excess Income of St. Louis and O'Fallon Railway Co.*, Finance Docket No. 3908, p. 59.

²⁴ Tawney, R. H., Royal Commission on the Coal Industry (1925), *Minutes of Evidence*, Thirty Third Day, p. 11.

mortgage on the industry as the security of the purchase bonds, there would still remain for the taxpayer the risk incident to any scheme of organization which places the ownership and financial responsibility on one group and the management and control in the hands of another. Under such a scheme it is clear that the Cabinet would be financially responsible for the capital charges of an undertaking over whose activities it would have no immediate control. But from this dilemma there is no escape unless the control of the industry is placed in the hands of a body or minister directly responsible to Parliament. Anomalous as the proposed arrangement may appear it is, however, no new departure from accepted methods of government finance in Britain. Under the Trade Facilities Act (1921-1925) the Treasury has guaranteed the securities of private undertakings sold in the open market to the extent of £70,000,000.²⁵ Some of these undertakings have had interests in coal mining and in coal by-product manufacture. Similarly, the recently passed Electricity Act creates an independent board with authority to construct and operate a system of power distribution lines with funds borrowed under Treasury guarantee as to principal and interest without being directly responsible to Parliament. The precedent for the proposed underwriting of coal bonds is, therefore, well established. There always remains, moreover, the power of Parliament to remove the industry from the hands of its appointed commissioners, should they prove unable to admin-

²⁵ *The Economist*, London, June 19, 1926, Vol. 102, No.4321, p. 1193.

ister it without imposing too large a financial burden upon the Exchequer.

From the arguments of its opponents one would assume that nationalization meant the destruction of all accounting methods and that the doing away with profits as incentive must result in abolishing the concept of profits as a test of the success of an enterprise. But as a matter of fact it would be possible under a nationalized system to prepare a separate profit and loss sheet for every pit or every unit of production and to develop or to curtail activity according to nice mathematical calculations impossible under the system of separate enterprises. Thus the conception of the "marginal pit" or "marginal unit of output" would assume a new relevancy and would become a working instrument in the determination of where production should be concentrated at any given time.

Such a cost sheet might also serve as an instrument for increasing the day-to-day efficiency of mining operation. A rigorous comparison of costs between different districts and different mines with adequate publicity would "greatly facilitate the economical and efficient working of a nationalized service." A thorough-going study of the details of expenditure of the 2,481 mines would yield important data for management in the task of reconstruction—data impossible to collect or to utilize under the system of multiple ownership and control.²⁰ Clearly it is

²⁰ Mr. Sidney Webb stresses the fact that "the note of the whole administration from top to bottom should be the fullest possible publicity for all the facts, whether scientific or commercial, which the costing branch would be perpetually expressing in tables and graphs of comparative statistics, and the other branches

not necessary for a nationalized service blindly to follow established procedure—to administer an industry without analyzing its financial structure. To do that constitutes the essence of officialdom and red tape whether in government or private enterprise.

III. SHALL THE EXPERIMENT BE TRIED?

It will be clear to any student of administration that the methods of control suggested by the advocates of nationalization express tendencies which are to be found actively at work in all phases of political and economic activity. It would be false to give the impression that nationalization is something altogether new. The affairs of the world are carried on by an endless multitude of constantly shifting contrivances. In the midst of this limitless variety, nationalization represents a stress, an emphasis in a given direction. The constructions and artifices which it employs are outgrowths and amplifications of devices which are parts of the prevailing industrial organization. In some respects nationalization is the fitting of old devices to new situations. It is a blanket phrase for an endless number of permutations. In so far as one can find a single motive running through these contrivances, it appears in their aim to make decisions in all phases of industrial activity less chaotic and uninformed, more purposeful and deliberate.

in frequent reports, to be widely distributed in convenient form and which, it is to be hoped, would become the subject of constant discussion and criticism not only at every Council and Committee, but also among the employees of all grades and sections." Mining Industry Commission, 1919, *Minutes of Evidence*, Vol. II, p. 482.

In last analysis, nationalization as proposed for the coal industry is a scheme of organization which takes account of every phase of the industry and attempts to weld them together into a plan of action. Clearly, nationalization is a fluid experimental term—in the sense that it may utilize any one of a number of expedients. Whatever the variations in administrative arrangements, suggested to increase efficiency at this point and at that, it remains true that nationalization is an effort toward organized relationships in the field of administration. It is an attempt to deal with all aspects of the industry in a single scheme and from a single point of view. It has unity of purpose and conception. It is a revolt against the inchoate multiplicity of the present system.

As a unified instrument of control, nationalization would have definite and important advantages. It promises the needed economies of amalgamation within the industry; it could do away with the vagaries of the distributive system; it would, by bringing together the many competing units, make possible the adjustment of supply and demand and the inauguration of deliberate policies, whether in the field of conservation, price adjustment, or coöperation in the international rationing of markets; it would prepare the way for a linking up of the coal industry with the generation of electricity on a wide scale and the scientific use of coal in the manufacture of by-products. Nationalization would also, by giving labor increased participation in control, hold the promise of greater industrial productivity and greater industrial peace. These are all needed

reforms. If not achieved through nationalization, they must be achieved in some other way, if the industry is to prosper.

Nationalization cannot by the wave of a reformatory wand bring prosperity to the industry. It is a long-time remedy incapable of meeting immediate needs. To suggest that nationalization will solve any immediate problems is like suggesting a long-time health program as a cure for an existing epidemic of yellow fever. Such a health program seems almost irrelevant when an epidemic is under way. Moreover, even if nationalization were adopted and if it proved successful it would, like any other reform which tends to increase efficiency, create new difficulties. Concentrated production under any system of control means complicated and costly adaptations. No reform which involves greater efficiency was ever inaugurated without creating displacements and making necessary new adjustments. But a condemnation of nationalization or any other plan on this ground must not be confused with a condemnation on the grounds of its own inefficiency.

In conclusion we must revert to our earlier statement that nationalization is only instrumental. But, again, this fact must not prejudice one's estimate of the value of the machinery. The success of that machinery must be judged chiefly in respect to its promise of success in dealing with two issues. In the first place, does it provide a mechanism sufficiently flexible to adjust itself to a complicated and rapidly changing situation? In the second place, will its influence upon the personnel of the industry be such that the ablest talent can be enlisted in the

venture and fresh talent continually recruited? Flexibility or plasticity of administration and adequate leadership and responsibility in the working force are two essential features of any successful scheme of management. The question at issue is whether nationalization gives greater promise of success at these points than does the present system or any modification of it proposed by its advocates.

However much one may discuss nationalization in terms of specific factors within the coal industry itself, it is idle to ignore the fact that division of opinion at this point grows out of a wider cleavage of opinion on the social issues of the day. It has been aptly said by a British economist: "Details we cannot expect to foresee, but of one thing we may be perfectly sure and that is that the economic organization of the 19th and early 20th century will not endure forever but will gradually be replaced by something else more suitable, not for the 19th century but for its own day and generation."²⁷ What is that new organization to be? With respect to this question nationalization represents the willingness to experiment in social organization as against the tendency to cling to established procedures. It is also part of a wider philosophy having its roots in a biological, psychological, and moral point of view. This point of view tends to explain the capacities of individuals in terms of environment and of training rather than in terms of native capacity alone; it tends to deny innate inferiority—physical or men-

²⁷ Coal Industry Commission, 1919, Evidence of Professor Edwin Cannan, Vol. II, p. 434.

tal—in any class; it rests its demand for social control upon the conviction that proper adjustments of opportunity are to be secured, not by the policy of allowing each individual to get what he can, but by concerted action of the whole social group. It expresses the belief that men have the power to order and to improve their environment and to make it serve rational ends. Upon the basis of this belief it favors exploring to the limit the possibilities of industrial and social reorganization. Whether or not English institutions shall be developed along the lines of this philosophy has long been a dominant issue in the life of the nation. And that issue is not yet determined. In the present conflict of opinion over the nationalization of the mines it has found one of its most significant and dramatic episodes. On both sides of the issue, among those who hold back as among those who press forward, one finds the British spirit in its most characteristic qualities and attitudes.

CHAPTER XIV

LOOKING FORWARD

Despite the almost unanimous opinion that something fundamental must be done about coal, if the mines are to operate without the aid of subsidies or the chaos of stoppages, the sober fact remains that no solution of the industry's difficulties has been effected. The activity in the coal fields following the stoppage of 1926 created for a time an illusion of health and prosperity. But clearly there has been no real improvement in the underlying situation. The stoppage settled nothing beyond the fact that the miners became exhausted in the fight. The old problems, the old inefficiencies, remain.

Moreover, the bitter controversy has left the miners broken in organization and sore in spirit. They feel that they have virtually been asked to provide the subsidy for the carrying on of the industry, and when opportunity comes they will avail themselves of both political and economic weapons to retrieve the shorter working day, higher wages, and their national organization. Although the owners were apparently victorious the fruits of victory are bound to be short-lived. Successful in their attempt to throw the burden of unprofitability upon the workmen, they have indolently accepted the present state of affairs. With the menace of industrial unrest immediately postponed it seems unlikely that

they will attack with vigor those many evils of ancient standing to which the industry with some measure of success had adapted itself in the past.

There still remain for the industry and for the nation the more important problems which must ultimately determine the ability of the industry to pay its way. The coal problem is, comprehensively, that of transforming thermal units into available sources of energy. It is the problem of furnishing industry with cheap power and of yielding a rich harvest of by-products to the country. This involves a program which must be thought about, planned for, and attacked with a vigorous hand. It requires the creation of new bodies to survey the whole field over which the technical revolution is likely to hold sway. This part of the coal problem involves a new approach, and the harvest will be long in coming.

But there are other reforms which promise somewhat quicker returns and which are no less necessary if the industry is to meet the highest standards of modern efficiency. Of these, some have to do with the operation of individual collieries, some with the regulation of the industry as a whole, others with international adjustments.

In the individual pit every phase of the productive process must be carefully scrutinized. Obsolete practices and methods must be rejected. The many wastes and duplications which result from separate workings must be eliminated through amalgamation and the abolition of royalties. Distribution must be made orderly and cheap. By taking intelligent cognizance of the "mind of the miner" the maximum output from each individual worker must be secured.

And fundamental to all other reforms, the size of the industry must, by concerted action, be brought within speaking distance of the demand for its product.

If the British coal industry must have a minimum of exports to survive, it may be that such adjustment cannot be accomplished without international action. In view of the fact that the coal industry of every large producing country is suffering from overexpansion at a time when the world demand for coal is shrinking, setting one's house in order is insufficient. While international competition for dwindling markets remains so keen, the price to be derived from export coal will be ruinously low. If proceeds are to be sufficient to pay decent wages to the miners some international rationing of markets seems necessary; otherwise all the coal exporting countries will be fighting a losing battle in the next few years.

There is nothing new or startling about these reforms. The consensus of competent opinion agrees that if help is to be found for the industry it must come from these sources. There is no other place to look for aid. But where is the leadership to come from? The scheme of arrangements built up under earlier conditions must now be remade to meet a situation in which the function of coal is either diminished or transformed. Scientific experimentation is continually devising simpler methods for accomplishing the tasks which but yesterday coal alone was able to achieve. The realm of coal has been invaded, and no one can foretell how far or how quickly the new enemies will take possession. More

than one plan doubtless is capable of readjusting the industry and giving it new orientation. But upon whom are we to rely for the formulation of such a reorganization?

The owners have given us their program, and it fails even in the acknowledgment of inefficiency. Only on the supposition that all the vital problems that face the industry are unreal and illusory can the future of coal safely be left in their hands. The consumers, again, are not coherently organized and have no recognized channels of expression. It seems unlikely that the miners can at present work constructively with other groups for the attainment of a common end. The technicians have, perhaps, the most to contribute by their knowledge of actual, day-to-day processes, but as a group they lack at present the necessary motivation.

It would seem, then, that the initial impulse for reorganization must come from the government. It may be, however, that in some unofficial group or combination of groups the intelligence and authority essential for leadership will be found. Certainly in the actual carrying out of the task of reconstruction all groups must be actively enlisted and together they must stand firm against separate interests wherever these appear hostile to the general welfare. Ingenuity, skill, and vision must unite in this work. Public opinion must be prepared and informed. Minds must be modernized as well as mines. The necessity for a coördinated and socially planned development of economic activities must be made vividly clear. Administrative and financial devices must be debated and translated into a working

scheme, and when such a scheme has been elaborated, tempered, and refined by criticisms, it must be launched with as wide a support as prestige—and the press—can give it.

But what will be the effect of a transformed coal industry upon the economic life of the country? At this point one finds a fundamental dilemma—and it is well to mark the spot where it occurs. The eradication of evils within the industry appears to be the occasion for the creation of others in a wider sphere. The elimination of the uneconomic mines means the concentration of output in a relatively few collieries. Improved technique means greater efficiency and therefore greater output per person employed. Linking the coal industry with utilization and power development means, for a time at least, a significant decline in coal consumption.

These reforms will inevitably give rise to great difficulties in the period of transition. The immediate result will be the displacement of capital and labor on a large scale. The elimination of superfluous pits involves abandoning large amounts of capital with little hope of future recovery. Funds invested in shafts, roadways, and airways cannot be transferred from unprofitable workings to newer and more "hopeful" fields. So also, with the exception of the steel rails on the roadways and an occasional engine, most of the colliery equipment has but junk value for any purpose other than mining. What remains in fact after a mine has been abandoned is little more than a hole in the ground. The losses involved in this readjustment raise problems of policy which cannot be complacently dismissed

with the suggestion that it is the business of the investor to look out for himself. In so far as capital may become valueless by virtue of a government edict a policy consistent with the preservation of the maximum political and social values must be evolved.

The problems of dislocation are even more serious in their effects upon labor. Even after allowing for the gradual transference of men from the poorer to the richer fields, at least 200,000 miners now on the payroll will have to find work elsewhere. But where? The mining village holds no opportunity for these workers outside of the pit. With over a million already unemployed, other British industries cannot absorb the discharged miners. Nor does British agriculture, as now organized, offer many new opportunities. Indeed, it is hard to see how the most expansive agricultural program which could be inaugurated could do more than care for a negligible percentage in the near future. It appears, therefore, that the alternatives facing the miner are migration to another land or joining the army of the unemployed. Migration he resists. So deeply rooted is he in local traditions that he rarely moves even from one mining district to another. And since the coal industry of other countries is already surfeited with labor such a move would mean entering a new occupation. Only the temperamentally adventurous few could be counted on to welcome such a radical readjustment or even to find it tolerable.

Must then the surplus British miners join the vast numbers of unemployed? Already the annual cost of unemployment to the nation is approximately

\$350,000,000. The drain upon the national exchequer has been averaging \$105,000,000 yearly, to which must be added \$70,000,000 from Boards of Guardians and local unemployment schemes. The remaining \$175,000,000 has been contributed by the employers and workers of the insured trades.¹ These figures are the more striking when one realizes that they are equal to about four-fifths of the total national expenditure for education each year.² Provision for 200,000 discharged miners would add a further serious strain on the national income. It is not inconceivable, therefore, that budgetary problems may in the near future be considerably complicated by the necessity of furnishing relief to large numbers of miners' families and that the cost of such relief may through its effect on taxation adversely influence the general business situation.

For how long this burden would have to be carried is another question. It must necessarily be a matter of speculation how far cheap heat and power resulting from a modernized coal industry might, by cutting production costs, stimulate industrial activity. Although it defies quantitative statement, it seems not unlikely that such a sequence will occur, with a twofold result. Cheap electricity, readily available, will bring a new current of life to Britain's indus-

¹ The annual income of the unemployment insurance fund is now at the rate of nearly \$250,000,000. In addition to this amount, the fund borrows some \$40,000,000, secured on future contributions. Price, J. F. G., Report of the Unemployment Insurance Committee, Second Volume, *Minutes of Evidence*, p. 20. Compare also, First Volume, p. 13, and Second Volume, p. 245.

² The expenditure by the National Exchequer for education for the fiscal year 1925-26 amounted to £46,498,000. About £40,000,000 were also spent by local authorities. *The Statesman's Year Book*, 1926, pp. 34, 37.

tries, and many of the unemployed may find their place again in factory and workshop. Ultimately, then, cheap electrical energy may be the means of increasing fuel consumption in the aggregate and thus of bringing back to the pits a portion of the unemployed miners. But such a process is bound to be slow. Like any industrial readjustment it cannot take place in a day, nor in a year. And during the transition period the unemployed must live. The threat of new dangers in this situation cannot be ignored. The question is whether they, too, can be overcome.

It becomes clear, then, that the reconstruction of the British coal industry, however important in itself, is simply a phase of the wider task of Great Britain in bringing order to her whole economic system and in recovering something at least of her former competitive position. To deal with the coal industry in isolation is like trying to cure a plant disease without reference to the soil of its environment. The success with which the adjustments of labor and capital can be effected will depend largely upon the health and activity of every part of the economic order. Involved in this process of fundamental reorganization are interrelated problems of public finance, banking and currency, industrial efficiency, labor, and social organization. Here is a network of issues which obviously lie beyond the scope of this volume.

To some extent coal is responsible for the difficulties which confront Britain in the large; in some degree the forces that brought disaster to coal pervade all British industry. Certainly, the same

obstacles and hazards which thinking encounters in the coal problem will appear intensified in dealing with the wider situation. Schemes of thought and opinion growing out of earlier conditions when Britain held mastery over the world of industry and commerce will tend to dictate the attack on present problems. Older preconceptions and commitments will be likely to obscure and distort the more novel phases of the present situation. Can the British mind rise above these difficulties? Can it free itself from the paralyzing caution which results inevitably from the knowledge that the margin for experiment in Britain is small? Has the time come for a definite departure from established modes of direction and control in industry? These are the questions which fundamentally constitute the British coal dilemma. Until these wider issues have been adequately dealt with the coal problem will not be solved.

APPENDIX A

COAL EXPORTS AND THEIR EFFECT ON OCEAN FREIGHT RATES *

The question has been raised in certain quarters as to the validity of the contention that outward coal cargoes tend to cut down inward freight rates, thereby lowering the cost of foodstuffs and raw materials imported into Great Britain. In arguing against this contention the evidence has been presented that Great Britain's important coal markets lie in Western and Southern Europe and that a goodly proportion of her foodstuffs and raw materials have usually come from the United States, South America, India, Russia, and Spain. Inasmuch as the shipment of coal and the importation of raw materials and food do not constitute a direct exchange of freight, it is held that the theory that coal exports have an effect upon the freight rates charged for incoming cargoes is untenable.

The fact is, however, that a direct exchange of freight is not essential to the substantiation of the theory. Outbound vessels frequently take coal to Mediterranean ports, unload, and then go on to the Black Sea or Egypt for wheat. A considerable portion of the outward journey is in this way made with a revenue cargo, and the return freight can accordingly be much lower than if the outward journey were made in ballast. Indeed, it has been found that a vessel carrying coal from Great Britain to French or other Mediterranean ports could then go

* See Chapter II, pp. 25 and 26.

on to North or South America running light, and bring back grain at a lower rate than if it made the journey direct to either continent in ballast. (Watson, Sir Thomas; Coal Industry Commission, *Minutes of Evidence*, First Stage, 1919, p. 144.)

In similar fashion, coal shipments from the United States to Panama are a significant factor in determining the freights to be paid on nitrates brought back from Chile. The outgoing coal furnishes a revenue cargo as far as Panama, and even though a distance to be traveled light from Panama to Chile is much greater than the distance from Hampton Roads to Colon, the fact that a revenue cargo is available for even a part of the outward journey makes an appreciable difference in the rate that must be charged for the return cargo.

In discussing the effect of coal exports upon the price of imported foodstuffs and raw materials, Sir Ernest W. Glover, former president of the Chamber of Shipping of the United Kingdom, emphasized the importance of outward coal cargoes in the following manner:

The backbone of the British Shipping industry is and must always be the trade to and from Great Britain and the backbone of that trade is the export of coal. Exports of coal, coke, and manufactured fuel, although in value amounting only to 8.4 per cent. of the total in 1924, played a most important part in our oversea trade. In weight they represented in 1924 nearly 82 per cent. of our total exports and therefore form the bulk of our outward cargoes. . . . The ship-owner therefore is vitally concerned in the maintenance of an export trade which absorbs so much cargo space and which employs so much shipping. In fixing freight the power to obtain cargo for the whole voyage, both outward and homeward, plays an all important part. The effect of curtailment of outward cargoes must be to increase the freights on homeward cargoes. (See Royal Commission on the Coal Industry (1925), *Minutes of Evidence*, Twenty Fifth Day, p. 5.)

Similar emphasis was made by Sir Daniel M. Stevenson, Chairman of the British Coal Exporters' Federation, when he said:

The value of the coal exported materially assists in meeting the cost of food stuffs and raw materials imported into this country, and the fact that vessels can get coal cargoes outward enables food stuffs and raw materials coming into this country to be carried at low freights—a great advantage. (See Royal Commission on the Coal Industry (1925), *Minutes of Evidence*, Sixteenth Day, p. 3.)

Innumerable cases might be submitted in proof of the relationship existing between coal exports and the price of British imports, but the argument must be left at this point with a single further illustration. During the recent coal stoppage ocean freight rates from Argentina to Great Britain increased from 15s to 40s per ton. This increase was in part due to a shortage of ocean bottoms which came about as the result of the transfer of ships from the grain to the coal trade. Ships which normally carried grain to Great Britain were being used to transport coal to England from the United States. The larger part of the increased charges, however, was caused by the fact that "steamers which formerly brought Cardiff coal to South America, returning with grain, now have to make the outward voyage in ballast."

"The effort of the ship owners to make the grain cargoes pay for the round trip have caused the increase in freight rates" White, John W., (correspondent) *The Washington (D. C.) Star*, October 21, 1926,

APPENDIX B

THE TERMS OF SETTLEMENT PROPOSED BY THE PRIME MINISTER IN MAY, 1926

On the termination of the general strike the following proposals for the settlement of the mining dispute were submitted by Mr. Stanley Baldwin for the consideration of the miners and the owners. (See Chapter V, p. 100.) These proposals were dismissed by both sides, in peremptory fashion. Had they been accepted an opportunity would have been afforded for putting into effect many of the major suggestions of the Royal Commission.¹

(1) In accordance with the recommendations of the Royal Commission, all practicable means for improving the organization of the industry and increasing its efficiency shall be adopted.

(2) The Government shall take the following immediate action:

(a) Introduce and endeavour to pass in this session—

- (i) A Bill to give effect to the proposals of the Commission regarding amalgamations.
 - (ii) A Bill to provide for a welfare levy on royalty owners, and to further the establishment of pithead baths.
 - (iii) A Bill to restrict recruitment in mines.
 - (iv) A Bill to set up for the coal mining industry a national wages board on the lines of the Railway Wages Board.
- (b) Set up the proposed national fuel and power council which will contain representatives of Labour.
- (c) Set up the proposed wagon committee.
- (d) Appoint a committee to investigate the question of selling syndicates.

¹ See *Colliery Guardian*, May 7/21, 1920, Vol. 131, No. 3412, p. 1098.

- (e) Appoint a committee to examine the profit sharing proposals of the Commission and family allowances.
- (f) Prepare a scheme for the establishment of pit committees.
- (g) Prepare plans for the assistance of men displaced from pits.
- (h) Set up a committee on housing in colliery districts.

(3) *Coal Advisory Committee.* Before any legislation is introduced, or committee set up, or other definitive step taken by the Government towards giving effect to any of the recommendations of the Commission, a full statement of the step proposed shall be laid before the Coal Advisory Committee of the Secretary for Mines. It shall also be the duty of the Advisory Committee to review from time to time the progress made in giving effect to the recommendations of the Commission, and to make recommendations on the subject. In the event of any recommendations made by the Committee not being adopted by the Secretary for Mines, he shall lay them before Parliament, together with a statement of his reasons for not adopting them.

(4) Apart from any expenditure that may be necessary under 2(g), the Government will provide further financial assistance to the industry to the amount of approximately £3,000,000.

(5) For a period not exceeding weeks: ²

- (a) The miners will accept a reduction of per cent in minimum wages ³ (other than subsistence rates) in all districts.
- (b) The owners will bear wages equivalent to 100 per cent of ascertained net proceeds (in January-March) so far as necessary to maintain those wages.
- (c) The Government will fill the gap with a subsidy to be debited against the £3,000,000 aforesaid.

(6) In the meantime:

- (a) A board shall be set up consisting of three representatives of the coal owners and three representatives of the miners, with an independent chairman.
- (b) The board shall frame a national wages and hours agreement governing the principles on which the general wage rates should be ascertained in each district,

² The length of time was to be agreed upon between the miners and owners.

³ The minimum wage was to be fixed by the negotiation of the parties concerned.

and shall also decide the minimum percentage on basis, taking into consideration the state and prospects of trade, the reorganization proposals of the Commission, and other relevant factors.

- (c) Subsistence wages shall not be reduced in any district where they at present yield 45s. per week or less for a full customary week.
- (d) The board shall decide also what the districts shall be.
- (e) The board shall issue its decision within three weeks.
- (f) In the event of disagreement in respect of wages, the decision shall rest with the independent chairman.

(7) If the parties agree that it is advisable that some temporary modification should be made in the statutory hours of work, the Government will propose the necessary legislation forthwith and give facilities for its immediate passage.

(8) Any balance of the £3,000,000 aforesaid will be available for a "tapering" subsidy after the period referred to in paragraph 5, or such other purpose as may be agreed upon between the Government, the Mining Association and Miners' Federation.

(9) The provisional undertakings made by the Government in this memorandum are conditional on the acceptance of its terms by the other parties.

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